

Iowa EIP Impact Assessment

State of Iowa
Executive Branch



Final Report



18 Hawk Ridge Boulevard
Suite 150
Lake Saint Louis, Missouri 63367
636/561-2455

CHAPTER 1: ACKNOWLEDGEMENTS	1
CHAPTER 2: ABOUT THIS REPORT	3
CHAPTER 3: EXECUTIVE SUMMARY	5
CHAPTER 4: PLAN OF ACTION AND KEY RECOMMENDATIONS	13
CHAPTER 5: PROJECT OBJECTIVE	15
CHAPTER 6: PROJECT APPROACH	17
ASSESSMENT AND STUDY MANDATE	17
ASSESSMENT AND STUDY FOCUS	17
COEUR GROUP'S 3 DIMENSIONAL VALUE ACCRETION FRAMEWORK	18
ORGANIZATIONAL ASSESSMENT FRAMEWORK	19
CHAPTER 7: IOWA'S IT CURRENT STATE	21
IT ORGANIZATION AND SERVICE DELIVERY	21
IT GOVERNANCE	22
KEY STRENGTHS	23
OBSERVATIONS	23
CROSS DEPARTMENTAL COLLABORATION	23
COST MANAGEMENT OF IT OPERATIONS	24
PERFORMANCE SCORECARDS	24
OPERATIONS	24
ICN	24
APPLICATIONS	25
INFRASTRUCTURE	25
CHAPTER 8: ASSESSMENT GAPS AND FINDINGS	27
CRITICAL STARTING POINT	27
DEPARTMENTAL REQUIREMENTS FOR TECHNOLOGY SERVICES	29
BUSINESS DRIVERS IDENTIFIED	30
ASSESSMENT FINDINGS AND TRENDS	31
GAP TRENDS AND IMPLICATIONS	33
IT ORGANIZATION AND SERVICE DELIVERY	40
IT OPERATIONAL PROCESS MATURITY MEASUREMENT	40
OPERATIONAL MATURITY LEVELS	41
INFORMATION TECHNOLOGY LEADERSHIP AND BEST PRACTICES	42





CHAPTER 9 – FINANCIAL FINDINGS AND IMPACTS **47**

FINANCIAL IMPACTS	47
STATE FINANCIAL STRUCTURE	47
FUNDING FLOWS	48
IT EXPENDITURE DATA	49
TECHNOLOGY SPENDING AND INSTALLED BASE	54
INSTALLED TECHNOLOGY BASE	58
OUTSIDE SERVICE SPENDING	59
PROJECT LISTS AND APPLICATIONS INVENTORY	60
IMPACT OF TRANSFERRING ALL STATE AGENCY EMPLOYEES	
DELIVERING IT SERVICES TO DAS	60
SCENARIO COMPARISONS	64
IT ECONOMY	80

CHAPTER 10: ACTIONABLE RECOMMENDATIONS **81**

FOUR DEFINED PROGRAMMATIC RECOMMENDED ACTIONS	81
1. LEVERAGE COMMON STATEWIDE INFRASTRUCTURE	81
2. DATA CENTER CONSOLIDATION	82
3. MOVE TO A HIGHLY STANDARDIZED STATEWIDE DESKTOP	
ENVIRONMENT – INITIATE A “LIFECYCLE” PROGRAM	84
4. CONDUCT A COMPLETE ENTERPRISE APPLICATION INVENTORY AND	
CONSOLIDATION	84
FOUR DEFINED INFORMATION TECHNOLOGY PROCESS RECOMMENDED	
ACTIONS	84
1. ESTABLISH A TECHNOLOGY GOVERNANCE BOARD	85
2. DEVELOP AN ENTERPRISE PORTFOLIO MANAGEMENT OFFICE	89
3. DEVELOP A STATEWIDE ENTERPRISE ARCHITECTURE	92
4. DEVELOP A PERFORMANCE BASED PARTNERING STRATEGY	93
THREE CRITICAL INFORMATION TECHNOLOGY ORGANIZATION	
RECOMMENDATIONS	95
1. REDEFINE THE ROLE OF THE CHIEF INFORMATION OFFICER (CIO)	96
2. CREATE A CUSTOMER RELATIONSHIP MANAGEMENT FOCUS	97
3. CREATE A STATEWIDE INFORMATION TECHNOLOGY SERVICE	
PROVIDER ORGANIZATION	98
OPPORTUNITIES FOR IT OPERATIONAL IMPROVEMENTS	99

CHAPTER 11: ORGANIZATIONAL SCENARIOS AND IMPACT **STATEMENTS** **101**

ORGANIZATIONAL PRECEPTS	102
BENCHMARK COMPARISONS	107
INFORMATION TECHNOLOGY SPEND PER EMPLOYEE	107
INFORMATION TECHNOLOGY EMPLOYEE POPULATION COMPARISON	108
ORGANIZATION MODEL/SCENARIO COMPARISONS	109
CENTRALIZED MODEL	110
SERVICE PROVIDER MODEL	112
FEDERATED MODEL	114



CHAPTER 12: TRANSITION ROADMAP **117**

EXPERIENCE OF OTHER STATES AND FEDERAL ENTITIES	117
GENERAL GUIDING PRINCIPLES FOR IMPLEMENTATION OF THE TRANSITION PLAN	122
STARTING POINTS	123
CHANGE MANAGEMENT	124
TRANSITION ROADMAPS AND IMPLEMENTATION PLANS	125
PROCESS TRANSITION ROADMAPS:	125
TECHNOLOGY TRANSITION ROADMAP:	127
ORGANIZATIONAL TRANSITION MAPS:	130

APPENDIX A: DEPARTMENT EXECUTIVE CRITICAL SUCCESS FACTOR INTERVIEWS **I**

APPENDIX B: IT OPERATIONS MATURITY **V**

APPENDIX C: DEPARTMENTAL EFFECTIVENESS AND EFFICIENCIES **XV**

APPENDIX D: GOVERNMENT INNOVATION TRENDS **XIX**

APPENDIX E: COEUR BUSINESS GROUP **XXIII**

APPENDIX F: GLOSSARY **XXV**

ACRONYMS	XXV
TERMS	XXVI





Chapter 1: Acknowledgements

Chapter 1: Acknowledgements

This report is the culmination of the EIP assessment covering the last four months coupled with the senior consultants on the Coeur Group team and their collective learning and expertise of the past 25 years in organizational modeling, design and implementations across multiple disciplines.

The bulk of the Iowa assessment data has come as a result of Critical Success Interviews, workshops, surveys and numerous interactive presentations with 40 department heads and their staff, CIO Council, EIP Steering Committee and AFSCME.

The free and open exchange of information has provided great insight to this assessment. The CIO Council has generously provided critical questions that caused us to rethink many of our initial assumptions prior to developing the three organizational models contained in the report. Without their candid discourse this report would have lacked the interrelationships necessary for modeling an Iowa state-wide Information Services enterprise.

We would also like to acknowledge colleagues across the country that have, for the past several years, been applying organizational transformation techniques and methodologies to their technology and business operations. Particular thanks to our contacts at IBM, Hewlett Packard, Dell, Computer Associates, Microsoft, META Group and Gartner Group for their insight regarding technology and costing trends

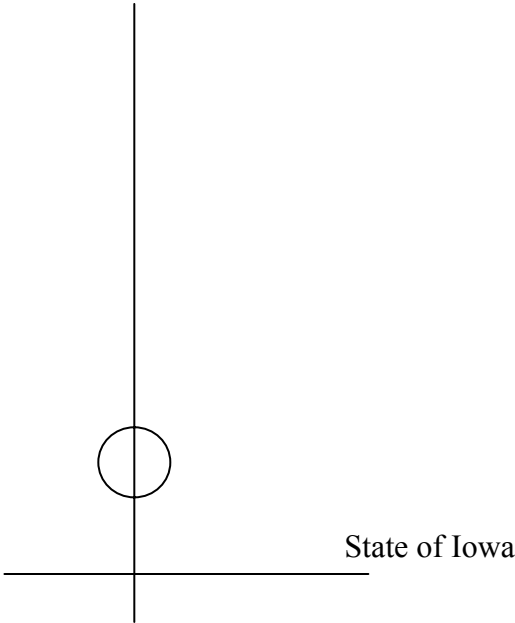
We have had the privilege of working with numerous client groups who have brought to our relationship not only great problems but wonderful insights into how to solve them. Their openness regarding their successes and failures has been helpful in opening our minds to alternate problem solving methods

In addition, there is an informal set of colleagues with state governments in Texas, Michigan, Delaware, Missouri, North Dakota, Florida, California, Connecticut and Nebraska that have taken time out of their already busy schedule to provide valuable insight to the models and recommendations contained in the report. Many of these associates are in various stages of working through the organization transformation. Their challenges and their successes have been accounted for in our recommendations.

Special thanks to Lorrie Tritch and Wes Hunsberger for providing communication and scheduling support for 40 departments and more then 250 individuals throughout this engagement has been exceptional.



Chapter 1:
Acknowledgements





Chapter 2: About This Report

Under the direction of the 80th Iowa General Assembly, House File 534 (HF534), Iowa Legislators codified a requirement for an independent and unbiased assessment focused on recommendations for centralization of the entire executive branch IT organizations. Additionally, impacts for business, technology, personnel and cost were required outputs of this report.

Prior to the issuance of the RFP, Information Technology personnel under the direction of the Department of Administrative Services developed a steering committee which requested 2 additional organizational models be requested in the RFP, which could be successfully implemented in Iowa's culture and government environment. Subsequent to the selection of Coeur Business Group, Inc., Iowa Department of Administrative Services developed a steering committee to insure the study was conducted and results were provided that would enable Iowa's legislators and Executive Branch to evaluate three separate organizational models and to come to a decision regarding future directions for an Information Technology structure and required investments in technology. This steering committee constructed and provided the request to utilize an unbiased vendor to conduct this assessment. The Departments of the Executive Branch were selected as the focus of the assessment which is defined as the Enterprise Infrastructure and Personnel Assessment (EIP Assessment). The focus of this assessment addresses 4 critical questions which are answered throughout this report, which include:

- How can investments in technology add Maximum Value to the State?
- How can we increase cost effectiveness on a statewide basis?
- How can we provide a greater focus on the core mission of the State?
- How can we effectively manage Scarce Resources and improve service delivery?

Finally House File 534 required a Fully Centralized organizational model and impacts, while the EIP Steering Committee requested two additional organization models which would be effective in the state of Iowa.

House File 534 and the EIP Steering Committee instructed Coeur Group to file a report on the results and recommendations of this assessment to the Legislature by December 1, 2004. This report fulfills this directive and establishes the recommendations to move forward with a more effective organizational structure based on a Service Provider model.

Findings included the critical need for statewide standards in technology deployment, the connection of standards with agency/department technology budgeting, the importance of consistent governance of technology investments, and establishment of a statewide common technology infrastructure across agencies and departments.



Coeur Group wishes to thank all state agencies and departments as well as ITE personnel for their full participation in this process.

Chapter 2
About This Report





Chapter 3: Executive Summary

This assessment has focused on the Executive Branch Information Technology organizations and addressed three interrelated aspects of organizational agility. These three areas included definition of processes, technology capabilities and agility and organization capacity for change and readiness to support the Executive Branch departments' business requirements.

The study addressed 20 specific assessment categories, focused on gaining savings, defining efficiencies, enabling positive departmental business impact to the state, as well as the probable success of transition in Iowa's organizational culture. The assessment gathered direct input with personal interviews of 43 departments, their directors and staffs, interactive workshops and reviews with IT personnel, gaining direct interaction and input from over 250 personnel. The results are contained in three (3) identified organization alternatives, four (4) specific process improvement areas which will provide IT operational efficiencies and effectiveness, and three (3) specific programs which will drive cost savings and provide early wins on a statewide basis. Additionally, the assessment drew on surveys and direct interaction with 10 peer states, all of which are currently in the process of centralization or consolidation efforts of their IT organizations. Key barriers and successes have been identified, and planned into Iowa's transition roadmap for successful implementation.

Assessment Findings

A "Common Executive Vision" for the requirements of Information Technology was defined across the 43 assessed Departments. Department Executive interviews and workshops yielded eight common elements for critical success performance:

- Provide reliability in technology
- Provide responsiveness and accessible information
- Ensure higher levels of communications and understand the department business requirements
- Make it easy to do business between IT and the departments
- Always be cost competitive with technology and services
- Invest in Information Technology to improve each department's business
- Competency of Information Technology resources is an absolute requirement
- Information Technology must fulfill commitments made

Business drivers: Six (6) common departmental "Business Drivers" were identified relating to the use of technology:



- Security (user access, Homeland Security, intrusion detection)
- Data Management (data integrity, accessibility, storage capacity)
- Regulatory (compliance, federal and state programs)
- Cost Management (effectiveness and efficiencies, cost avoidance)
- Service Delivery (problem management, change management, service level agreements)
- Business/Technology Alignment (funding process, constituency alignment, strategic focus)

Defined gaps: Seven (7) gaps identifying misalignment in expectations and requirements between departments and IT were identified and include:

- Project management and service delivery (lack of credibility)
- Requirements for statewide standards and a technology architecture (none exist today)
- Department and Information Technology alignment (requires joint IT/department planning efforts)
- Business acumen of IT personnel and Client Relationship Management to define requirements
- Requirements for leveraging procurement sourcing and vendor performance management
- Reporting measurements and definition of the “Business Value of IT Investments” (governance is required)
- Business recovery and issue escalation and management (backup and disaster recovery)

Iowa’s need for organization agility: The results of the EIP Assessment indicate a number of areas which Iowa may be more effective in it’s utilization of scarce funding for technology and resources. Based on the defined Common Executive Vision, identified departmental and technology Business Drivers (BD’s) as well as analysis of critical Gaps, three alternative organization models were developed to meet the desires of the legislatures House File 534 as well as the requirements of the EIP Scope of Work.

The organizational alternatives developed for the State of Iowa were partially guided by the Common Executive Vision, identified Departmental Businesses Drivers, and defined Perception Gaps between IT and departments, as well as current operational capabilities and capacity to enable the business of the state. Even though some

"Beyond reengineering our corporations we must be about the business of reengineering ourselves. As we move from command-and-control to knowledge-creating organizations, leaders are challenged to change their minds, their strategies, and even their sense of the possible. Building learning organizations capable of profound performance calls for a commitment to learning, designing and stewarding. It requires us to begin again, and again, and again -- we cannot do less. Our communities in the future depend on our capacity to learn our way out."

- Sue Miller Hurst
Advisor, The Center for
Organizational Learning at MIT



collaboration is evident among various departments, full coordination of IT resources, both human capital and other hard assets are not coordinated statewide.

A brief overview of each Alternative organizational model is depicted in the following pages. Each alternative has specific cost impacts (defined in detail with the highlights contained in this executive summary. Alternative 1 is the mandated organization model depicting a full centralization of all Information Technology resources, assets and funding. The other two alternatives are models which could be successfully implemented within Iowa's structure and culture with varying degrees of success and impact.

Alternative 1 – Centralization

This alternative means “Centralization” of all resources into a single department including technology, human capital, assets and funding. This alternative is mandated by House File 534 and represented in the following description.

Process impact: Centralization of all Procurement processes, investment governance, and architectural standards for technology.

Organizational impact: In a fully centralized Information Technology organization the State CIO would be appointed by the governor to head this Department and report directly to the Governor. The new state IT organization would provide all Information Services and Information Technology to the Executive Branch Departments/Agencies in the State of Iowa. All assets, both technology and human capital, would be transferred into this department. The departments would purchase services from the IT department based on an established rate structure and the departments would receive a monthly invoice for services provided. The new state IT organization would essentially become a sole source provider of technology services for the state.

Funding impact: Funding would be retained in the departments and services would be budgeted and paid for through the development of service agreements with the new state IT organization. The central IT management controls the IT spend plan for all services. This model requires strong asset management, a time accounting system, a rate for services catalog, accounting systems, invoicing procedures, audit procedures, budget process, reconciliation processes, as well as a skills inventory and career planning process. With strong accounting procedures this model will meet the federal guidelines for matching funds for programs and grants.

Probability of success and timing impact: The probability for a successful transition to a Centralized IT organization in the State of Iowa is approximately 50% to 70% with an implementation time of approximately 30 - 48 months from start of initiation.



Cost of Implementation Impact

- Program implementation cost to generate savings will be ~\$8.6M
- The calculated savings for reinvestment derived from this organizational approach would be approximately 10% to 14% annually, over a 5 year period.
- Estimated rate of return: ~\$26.1M savings at 306% rate of return

Alternative 2 – Service Provider

This alternative defines IT as a “**Service Provider**” organization structure which consolidates common infrastructure elements of Information Technology across the state, provides for common standards, clear governance of technology investments, centralized procurement of technology and services, as well as clear focus on mission critical elements of departmental business requirements from IT.

Process impact: Centralization of all technology procurement, network infrastructure including data centers (enterprise, departmental and client servers), common applications, utilities and network management into an Office of the CIO.

Organizational impact: A State CIO would be appointed by the governor to head the Office of the CIO and report directly to the Director of DAS (current CIO functionality) or, alternatively, the Governor. The Office of the CIO would provide Information Technology and Information Services common to departments, i.e. data, electronic messaging services (email, etc.) and data center operations. All associated common infrastructure assets, both technology and human capital would be transferred into the Office of the CIO, this would include all current Departmental CIOs. Departments would retain resources needed to provide department specific requirements (typically Application Developers). The Iowa Communications Network should provide all networking infrastructure to include, Wide Area Networking, Campus Area Networking, and Local Area Networking. The appropriate transfer of necessary human resources to support all networking requirements should occur the same time other IT resources are transferred to ITE. The ICN should continue to provide government’s voice and video needs.

Funding impact: Initially, the Office of the CIO would be funded by the transfer of Department CIO funds and general funds for base operations. A common rate structure would be established for the departments to buy services from the Office of the CIO or other departments and the departments would receive a monthly invoice for services from the DAS finance and accounting group. The Office of the CIO would essentially become the coordinator of IT services throughout the state. Funding would be retained in the departments and services are budgeted and paid for through the development of service agreements. This model requires a strong governance



board, asset management, cost accounting system, time accounting system, rate for services catalog, accounting systems, invoicing procedures, audit procedures, budget process, reconciliation processes, as well as a skills inventory and career planning processes. With strong accounting procedures this model will meet the federal guidelines for matching funds for programs and grants.

Probability of success and timing impact: The probability of successful implementation of this model in Iowa's current environment are approximately 70% to 85% due to the ability for current departmental resources to continue to focus on departmental application software mission critical aspects, while gaining leverage of common infrastructure services with minimal personnel interruptions. Implementation time frames are generally 24 to 36 months from the start of implementation.

Cost of Implementation Impact

- Program implementation cost to generate savings will be ~\$7.9M
- The calculated savings for reinvestment derived from this organizational approach would be approximately 8% to 15% annually, over a 5 year period.
- Estimated rate of return: ~\$26.8M savings at 339% rate of return

Alternative Model 3 – Federated / Shared

This alternative focuses on the “consolidation” and “centralization” of **key infrastructure elements**, with most current departmental resources staying in the same place as in today's environment. Key aspects of this model include centralized governance of new technology investments, centralized planning and procurement and new technology buys procured to a set of standards driven by a central IT architecture.

Process impacts: Centralization of all technology procurement, network infrastructure and common applications and utilities into an expanded Information Technology Enterprise (ITE). A State CIO would be appointed by the governor and/or designate, and would report directly to the Director of the Department of Administrative Services (DAS). The CIO's responsibilities include the management of common infrastructure components, applications, utilities and data centers. ITE would provide Information Technology and Information Services related to inter-departmental communication, i.e. electronic messaging services; data center operations. The State CIO would establish state-wide technology standards, chair the governance board, manage the state IT spend plan, and have at their disposal finance and accounting to ensure compliance. The Iowa Communications Network should provide all networking infrastructure to include, Wide Area Networking, Campus Area Networking, and Local Area Networking. The appropriate transfer of necessary human resources to support all networking requirements should



occur the same time other IT resources are transferred to ITE. The ICN should continue to provide government's voice and video needs.

Organization impact: Departments would retain intra-departmental network responsibilities. Selected assets, both technology and human capital, would be transferred into ITE. Department CIOs would retain resources needed to provide department specific requirements. A rate structure would be established for the departments to buy services from ITE. Departments would receive a monthly invoice for ITE services from the DAS finance and accounting group. The State CIO would essentially become the coordinator of IT standards throughout the state.

Funding impact: Funding is retained in the departments, and services are budgeted and paid for through the development of service agreements. Current funding for ITE resources remain in place. This model requires a strong governance board, asset management, cost accounting system, time accounting system, rate for services catalog, accounting systems, invoicing procedures, audit procedures, budget process, reconciliation processes, as well as a skills inventory and career planning process. With strong accounting procedures this model will meet the federal guidelines for matching funds for programs and grants.

Probability of success and timing impact: The probability of successful implementation of this model in Iowa's current environment are approximately 60% to 70% due to the ability for current departmental resources to continue to focus on departmental mission critical aspects, while reporting directly to the department heads. Implementation time frames are generally 18 to 24 months from the start of implementation.

Cost of Implementation Impact

- Program implementation cost to generate savings will be ~\$8.0M
- The calculated savings for reinvestment derived from this organizational approach would be approximately 3% to 9% annually, over a 5 year period.
- Estimated rate of return: ~\$11.6M savings at 145% rate of return

Based on the three scenarios, insights from various sessions with departments, CIO Council, and the EIP Steering Committee, Coeur Group recommends specific actions to enable cost savings and high leverage across the Executive Branch Departments.

The chart below provides a view of the critical elements that enabled prioritization and scoring by our team regarding the three alternatives provided. The assessment tools and process categories for prioritization included security, data management, regulatory issues, cost management, service delivery, departmental business and constituent alignment, key factors



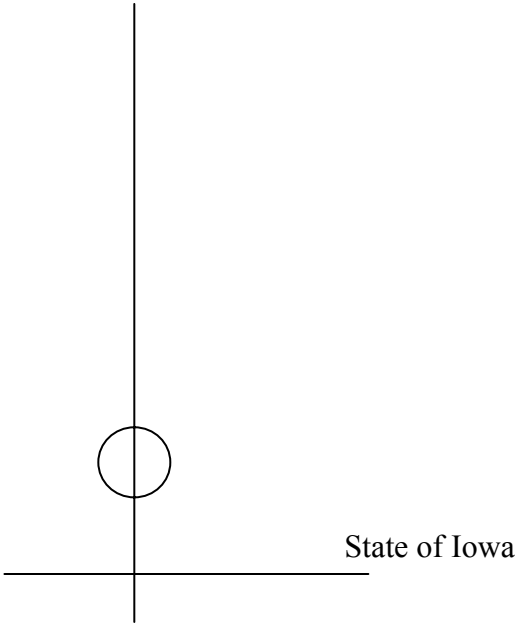
of the common Executive Vision, and business drivers. Each category was weighted based on defined factors from interviews assessments and surveys. As shown below the “Service Provider” model had the highest scoring potential. We also believe, based on all the considered factors, that this model is the most likely to provide savings, generate additional value from IT investments and succeed in implementation within Iowa’s technology culture and infrastructure.

		Driver	Weight	Centralized	Service Provider Model	Departmental
Security	User Access		70	65	75	75
	Homeland Security		75	80	80	60
	Intrusion Detection		70	85	85	60
Data Management	Integrity		90	70	75	65
	Accessibility		80	70	75	60
	Storage		75	85	85	65
Regulatory	Compliance		75	80	80	75
	Federal/State Programs		80	65	80	85
Cost Management	Effectiveness/Efficiency		65	70	70	45
	Avoidance		65	60	75	45
Service Delivery	Problem Management		70	70	75	55
	Change Management		70	75	75	45
	Service Level Agreements		85	85	85	55
Business/Constituent Alignment	Funding Process		85	70	75	65
	Constituency Alignment		95	65	80	70
	Strategic Focus		90	65	75	75
Common Vision Requirement	Reliability		90	85	85	85
	Responsive and Accessible		90	80	85	85
	Communication		80	75	90	90
	Ease of Doing Business		75	75	80	90
	Cost Competitiveness		80	85	85	75
	Improve Business		85	75	85	85
	Competence		75	75	80	75
	Fulfilling Commitments		80	75	80	80
				74.4	80.0	70.1

Organizational Prioritization and Risk Factors



Chapter 3
Executive Summary





Chapter 4: Plan of Action and Key Recommendations

This report establishes a vision for a statewide technology organization and common infrastructure that provides strong support across agency/departmental boundaries to meet the priorities of the leadership. This report provides a plan of action to realize the recommendations of this assessment. The Key Recommendations are broken down into four (4) process recommendations, four (4) program recommendations and three (3) organizational recommendations, including the recommended organizational model.

Process Recommendations

1. Establish a Technology Governance Board (TGB) for decision-making based on business drivers in support of customer requirements.
2. Develop an Enterprise Portfolio Management Office (EPfMO) approach to funding methodologies to allow more fiscal and management efficiencies.
3. Develop a statewide Enterprise Architecture for defining, developing and implementing a statewide common infrastructure standard.
4. Develop a Performance Based Partnering Strategy (PBPS) with the State's primary suppliers and vendors and develop a centralized IT procurement process to enable maximizing leverage across all departments and agencies when buying technology.

Program Recommendations

1. Leverage common statewide infrastructure
2. Data center consolidation
3. Move to a highly standardized, statewide desktop environment – initiate a "Lifecycle" program
4. Conduct a complete enterprise application inventory and consolidation

Organizational Recommendations

1. Creation of a statewide CIO position
2. Create a customer relationship management focus
3. Create a statewide Information Technology service provider organization

Defining the Value of Information Technology – By implementing a Technology Governance Board which will be responsible for all technology investments. Tracking the return of the investments and addressing new project investment via a planned Business Case based approach to finding and allocation.

Developing a Statewide Technology Infrastructure – By managing targeted commodity functions needed by many agencies at an enterprise level, Iowa can



reduce redundancy, control costs and improve access to services for all agencies and departments.

Develop a Statewide IT Foundation for Maximizing Investments – Development of an Enterprise Portfolio Management Organization (EPfMO) will provide the vehicle for managing and coordinating multiple projects for a more successful outcome.

Statewide Technology Management – The Executive Branch departments spends nearly \$126 million annually on information technology, with most of this investment deployed on an agency-by-agency and project-by-project basis. Strategic asset deployment to support leadership priorities requires coordinated enterprise management. An Enterprise-wide Chief Information Officer (currently the DAS-ITE COO Function), must have statewide authority to manage across Executive Branch departmental boundaries.





Chapter 5: Project Objective

State and local governments nationwide are struggling to define the “Business Value of IT Investments” and will spend approximately \$45.3 billion on technology in 2004, according to Mark Forman, Associate Director for Information Technology and E-Government at the U.S. Office of Management and Budget. After 3 years of flat or reduced spending, predictions for government IT spending point to a growth rate of 8.7% over the next 12 months through 2005. In addition, spending on Information Technology (IT) for state and local governments is increasingly taking a larger portion of the overall budgets particularly in the replacement of aging infrastructure, security, data networking and hardware.

In the State of Iowa, IT spending has not kept pace with that of peer group states and, compared to recent benchmarks, falls short by approximately 30% per year over the past 3 years when compared to peer group states. Furthermore, over the last three years, Iowa’s IT spending on hardware and software has actually fallen by about \$9M.

Including technology personnel, total IT spending for Iowa statewide is approximately \$124 million, or about .9% of state revenues. The peer group spends 1.8% to 2.2% of state revenues on IT. The benchmarks utilized include Coeur Group research, world wide benchmark information from META Group, Forrester and Gardner Group research firms.

Recognizing the increasing importance of technology development to an effectively functioning Iowa state government, Governor Tom Vilsack established the Department of Administrative Services in July 2003, with one of its goals to focus on the development of a stronger Information Technology organization and to increase its reliability and level of service to constituents.

With high expectations for Information Technology and with uncertainty of the “value” derived from technology investments statewide, Legislators required review of the State’s IT organization and for recommendations that will enable the maximization of technology investment returns. Based on the mixed understanding of technology utilization, an acknowledgement of its enabling capabilities for the state’s departments and agencies, House File 534 was drafted and approved which created the Department of Administrative Services (DAS) and its operating units of Information Technology Enterprise (ITE), State Accounting Enterprise (SAE), Human Resource Enterprise (HRE) and General Service Enterprise (GSE). Further expectations of the Legislature were to reduce cost and to consolidate IT resources in some manner.

The Enterprise Infrastructure and Personnel Assessment (EIP) was the result of a Legislative focus on improving the value of Information Technology and was conducted to address the requirements of House File 534 (HF 534).



Chapter 5
Project Objective

The Assessment has examined process, technology and organization for the Executive Branch of Iowa's statewide Information Technology capabilities. The study addressed 20 specific assessment categories, focused on gaining savings, defining efficiencies, enabling positive departmental business impact to the state, and the probable success of transition in Iowa's organizational culture. The Assessment gathered direct input through personal interviews of 43 departments, their directors and staffs, and through interactive workshops and reviews with IT personnel. In total, direct interaction and input came from over 250 state personnel.

Additionally, the assessment drew on surveys and direct interaction with 10 peer states, all of which are currently in the process of centralization or consolidation efforts. Key barriers and successes have been identified and planned into Iowa's transition roadmap for successful implementation.

The recommendations of the Assessment are contained in three (3) identified organization alternatives, four (4) specific process improvement areas which will provide IT operational efficiencies and effectiveness, and four (4) specific programs which will drive cost savings and provide early wins on a statewide basis.





Chapter 6: Project Approach

Assessment and Study Mandate

Under the direction of the 80th Iowa General Assembly HF534, Legislators codified a requirement for an in-depth study of the Information Technology capabilities, organization structure and operational processes to ensure future requirements for information across the state are not only adequate but utilized effectively and innovatively as well. In this light Iowa developed a Steering Committee to ensure the study was conducted and results were provided that would enable Iowa's legislators and Executive Branch to evaluate and come to a decision regarding future directions for Information Technology structure and investments in technology.

Coeur Group's research indicates that pressure from reduced tax revenues, increased cost of non-discretionary funding, such as Homeland Security, current economic pressures and the drive to measure all technology investments is forcing Public Sector Information Technology organizations to dramatically accelerate the movement to performance measurements, portfolio management methods and alignment of their organizations with legislative and administrative directions and mandates during 2005/06.

To this end, Iowa wants to ensure that Information Technology investment value and operational effectiveness is clearly articulated and visible to the Departments, Legislators and Executive Branch, and that they are properly identified, prioritized and managed. The outcome of this assessment has defined a number of best practices for an IT organization and a defined plan for transition to a new structure if determined appropriate by the legislature or Executive Branch. Additionally the EIP Assessment has resulted in key actionable recommendations, which will provide a clear understanding of Iowa's Information Technology, operational capabilities and credibility as well as the determination of required organizational constructs and competencies for future support of the State's technology and operations.

Assessment and Study Focus

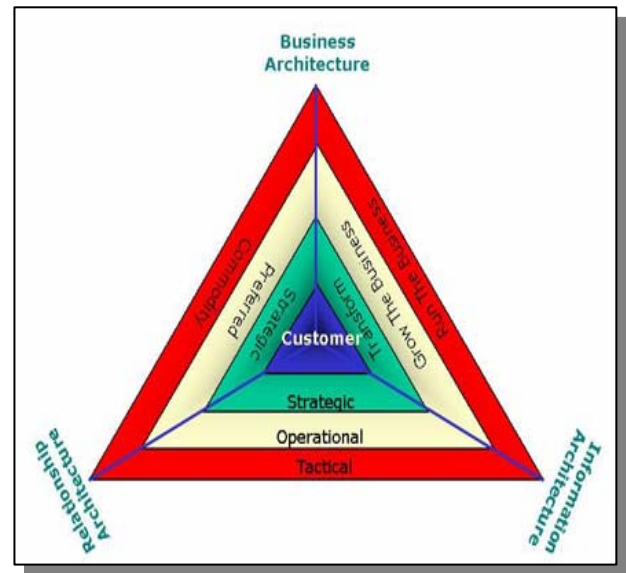
Coeur Groups assessments were initially focused upon departments of the Executive Branch "Business Information Requirements" and a defined Common Executive Vision (CEV) across 40 participating Departments and Agencies. Secondly, Coeur Group utilized its research, methods and tools to determine current organizational agility and capabilities. Finally, Coeur Group has benchmarked the statewide IT organizations and operations against similar states organizational transitions, technology innovations and best practice implementation. During the course of this assessment cost impact findings indicate clear and measurable savings can be gained of approximately 8% to 15% overall. These savings however should be redirected back into the existing Information Technology Economy to support the current and future infrastructure.

Coeur Group's 3 Dimensional Value Accretion Framework

As part of the EIP Assessment, our team utilized Coeur Group's 3 Dimensional Value Accretion approach with our proven methods and tools.

Based on areas assessed, and the Coeur Group recommendations for cost improvement programs addressed in this document, Iowa can expect significant improvements in investment returns and operational effectiveness as they implement these disciplines to successfully support the needs of the state's Departments and Agencies and its constituents. These disciplines include:

- *Value Centric Performance Measurement* – developing business and financial disciplines, using business performance metrics to assess and monitor value contributions;
- *Enterprise Portfolio & Program Management* – ensuring technology investments gain maximum value and return, managing repeatable, stable project execution to increase the business value of an organization's project portfolio;
- *Enterprise Architecture* – creating an adaptable IT environment using business-aligned technology consideration and selection processes;
- *Value Sourcing* – strategies that optimize IT service delivery sources: selective outsourcing, performance-based vendor management and procurement excellence,
- *Human Capital & Organization Management* – enhancing organization performance for enabling the business and information processes through a focus on business alignment, relationship management and mobilization of the legislative and governor's vision and strategy,
- Coeur Business Group's collaborative approach with Iowa's Departments and Agencies provided a 3-Dimensional view which helped map out specific "best actions" to "best practices" for immediate economic and competitive impact.



3 Dimensional Value Accretion Model

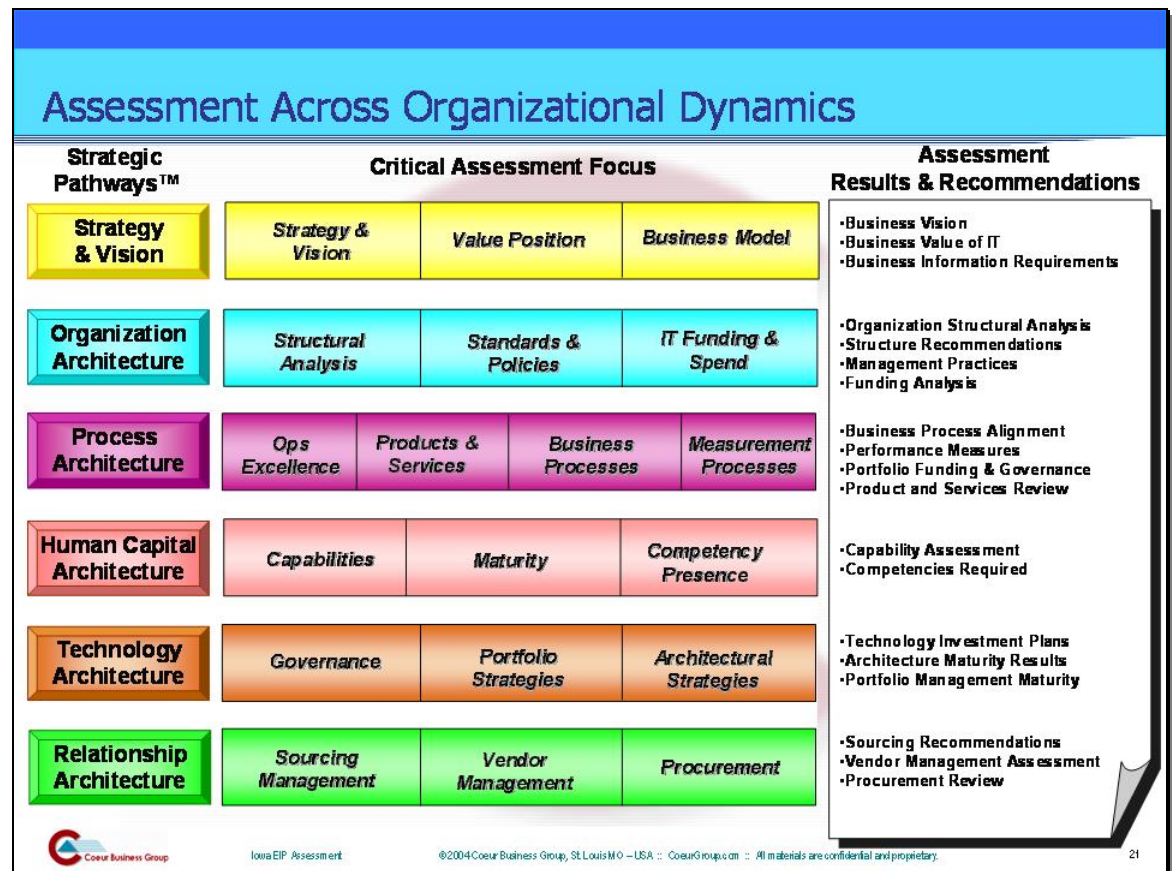
In addition to specific improvement program recommendations, Coeur Group has identified business-essential process changes which will provide concrete economic value and maximizes business value contribution.



Organizational Assessment Framework

Coeur Group utilized its strategic Organizational Pathways Assessment Framework for the EIP impact analysis.

Coeur Group's select team of senior individuals has had specific background and expertise in organizational modeling, cost benefit analysis, management practices and overall IT operational excellence.



Based on Coeur Group's organizational assessment framework, our team has reviewed six (6) critical architectures which impact organizational capability, cost, effectiveness and value accretion capacity. These include:

Strategy and Vision: The View of the Departments and Agencies, defining a Common Executive Vision (CEV) and determination of critical Business Drivers (BD's).

Organizational Architecture: Understanding the current state and future requirements for IT structure, standards, budgeting and funding mechanisms.

Process Architecture: Determination of IT operational process maturity, development of services, linkage to business processes and performance measurements.



Human Capital Architecture: The overall assessment of capabilities, maturity and presence of required functional competencies.

Technology Architecture: The definitions of current and future requirements for Governance of technology investments, utilization of strategies to implement and manage projects, as well as the technology standards and application guidelines for standardization of process, program and infrastructure investments.

Relationship Architecture: The determinations for procurement processes and leverage, capabilities for partnering with strategic suppliers, and what non-core elements of the Information Technology functions would be better provided from an outside source. A critical focus of the relationship architecture is the building of trust relationships and having the business acumen to understand the Department and Agency business requirements for technology.





Chapter 7: Iowa's IT Current State

IT Organization and Service Delivery

Focal Point

Legislation in 2002 from House File 534 provided for the formation in July of 2003 of a new IT organization called Information Technology Enterprise (ITE) within another new organization, the Department of Administrative Services (DAS). A separate Chief Operating Officer for the IT Enterprise was defined.

Statewide, the current IT organization resembles a distributed departmental model which is very siloed in operation while there also exists a central core ITE department. Although some collaboration exists between the department/agencies (as noted above), collaboration between ITE and departments/agencies is not widely evident. Culturally, this cooperation will not exist unless it is mandated or changed via reorganization.

ITE is currently comprised of traditional IT functional groups including IT Infrastructure, IT Applications and Projects. Major barriers exist between the department/agency IT functions and those of ITE. This gap of trust and collaboration exists largely because of past attempts to centralize IT authority.

To recap in this report, there are various items that influence ITs current state. Some of these include the newly formed DAS-ITE organization, its mission, vision, and goals with an entrepreneurial focus.

DAS-ITE Mission Statement

To provide high-quality, customer-focused information technology services and business solutions to government and citizens.

ITE Enterprise Vision

To provide the best data processing services to our customers through the effective utilization of existing and new information technology. DAS-ITE will implement and support technologies and processes that will increase service to customers and enhance staff productivity.

ITE Enterprise Goals

Attain a leadership role within state government in terms of knowledge and delivery of relevant technologies. Become the technology service provider of choice for state agencies.

Allocate all resources within ITE to gain maximum efficiency, effectiveness, accountability, and service equability.



Develop a workforce that is empowered, supportive, capable, and accountable.

Become the employer of choice in the field of information technology.

Provide world class service, at the highest quality and lowest cost, to all of our customers. Strengthen relationships with customers and business partners to ensure increased and enhanced service delivery throughout state government.

Develop data and technology infrastructure as strategic assets of state government.

Collaboratively develop and promote enterprise IT solutions.

IT Governance

Focal Point

The Information Technology Council (ITC) is the primary cross-department entity which manages a governance process. The mission of the Information Technology Council (ITC) is to advise the Department of Administrative Services-Information Technology Enterprise in developing information technology standards, strategies and procurement policies for use by state government within the State of Iowa. The ITC has primary responsibilities that include:

- Develop recommended standards for consideration
- Appoint advisory committees as appropriate to assist the ITC in developing strategies for the use and provision of information technology.
- Prepare and annually update a strategic information technology plan for the use of information technology throughout state government.
- Review and make recommendations to the General Assembly on IT
- Review the recommendations of the Iowa Access Advisory Council regarding rates
- Review and approve annual budget recommendations for the Department as proposed by the Director and as deemed appropriate by the ITC

Observations

The major issue with using the ITC as a primary governance mechanism is its lack of authority over all departments. Currently any department may ignore the proposed standards promoted by the ITC. Key components of planning and oversight lack a statewide impact and are regarded by most departments as simply useful for ITE only. Additionally, the ITC is made up primarily of private sector individuals, many with limited technological backgrounds.

Enterprise Information Technology Strategic Plan



The Chief Information Officer, working with the CIOs of the individual state agencies, maintains an Information Technology Strategic Plan for the Executive branch of state government.

The Information Technology Enterprise (ITE)

The ITE works with the following councils for oversight of the Information Technology activities of the Executive branch of state government: IT Council and the CIO Council.

Key Strengths

While this Enterprise Infrastructure and Personnel Assessment (EIP) focused on understanding and defining the current capabilities and capacities of the statewide information technology organization and infrastructure, it is important to note areas of positive capability.

Our assessments and interactions identified specific areas of significant strengths within departments as well as evidence of collaboration across a number of the departments and agencies, especially among the larger ones.

Oftentimes, engagements of this nature focus exclusively on areas for improvement. This section of the Final Report briefly describes several key IT strengths that surfaced from our analysis.

Observations

Cross Departmental Collaboration

Clear examples of cross departmental collaboration of effort are present. We found a number of departments and agencies working together on:

- Project tracking applications
- Collaboration for ICN security issue resolution
- Security management collaboration
- Collection of revenues across some departments
- Vendor "Offset" payments and tracking
- Electronic File Transfer of payments
- Local government support
- Enterprise Data Warehouse sharing
- Data sharing between departments with high level data elements
- SING (Web Access application)
- Cost reduction for MS Exchange
- Collaborative leadership session among large departments



Cost Management of IT Operations

Cost reduction efforts have been mandated by Executive Order over the past 3 years. All Departments have participated and many have reduced IT resources to levels of maintenance operations.

An example of responsible IT management and “Best Practice” implementation is the reduction of mainframe operational costs. A savings of over \$900,000 was accomplished through cross departmental collaboration and the elimination of duplicate application cost.

Performance Scorecards

Widespread use of Performance scorecards is evident in some units of IT, most notably in ICN and ITE. The construct of these specific performance scorecards is a clear indication of “Best Practice” operational management which should be implemented across all EIP departments.

Operations

As a result of an initiative launched in 1998 the Department CIOs embarked on an effort to consolidate Mainframe hardware, applications and utilities into three Data Centers. The consolidation has resulted in significant savings for the State in the form of labor costs, licensing fees, and maintenance fees.

ICN

The Iowa Communications Network is a state owned Telecommunications Company that has been granted Common Carriage Status from the Federal Communications Commission (FCC). Certain rules and guidelines apply when Telecommunications Companies are granted this special status. We recommend that a thorough review and analysis of the Telecommunications Act of 1996 and other appropriate laws be completed to insure that the ICN would not be jeopardizing its Common Carriage Status as efficiencies are reviewed and implemented for Networking Services. The Coeur Group recommends that a Telecommunications Law Office be consulted.

ICN has developed wide area network pathways in support of voice, video and data communication for more than 85% of the communications traffic moved within the state. These pathways have been planned, designed and managed by the ICN and it's contractors in support of greater than 99.9% system availability. ICN has established contract relationship management with Iowa Telephone Companies supporting greater than 90% of the network traffic within the State. ICN has established service level agreements and rate schedules for all published services. ICN maintains “common carrier” status and are governed by the Iowa Technology and Telecommunication Commission (ITTC).



Applications

Each Department has evolved an application development and support process that support their unique departmental business requirements. Information Services in conjunction with business management reviews the needs of the department and selects the appropriate projects in support of the then current business objectives. Application selection meets the changing conditions of the department.

Infrastructure

Over the past year the CIO Council has made inroads regarding interdepartmental communication in support of collaboration initiatives for reduction in duplication of effort on several matters regarding hardware standards. These standards have been used in support of consolidating desktop purchases among some departments.





Chapter 7
Iowa's Information
Technology Current
State





Chapter 8: Assessment Gaps and Findings

Critical Starting Point

Strategy and Vision

Coeur assessed the strategy and vision with selected interviews from legislative, administrative, and departmental individuals. From these findings Coeur Group has provided a definition of the current value position of Information Technology as perceived by the internal and external customers within the state.

A key aspect of this initiative was to understand the perceptions of Information Technology by state legislators and administration executives. Key questions include:

- What are the expectations and methods of measuring the value generated by Iowa's Information Technology organizations to the state?
- Where is the maturity level against IT "Best Practices"?
- How are the departments better enabling cost reductions and investment decisions for technology?

The EIP Assessment approach defined critical areas of Information Technology support and services, organizational capabilities as well as key Information Technology business processes. Coeur Group developed the customized assessment for the state of Iowa using proven methods and tools for determining the capability and capacity of Information Technology resources, operations and organizational structure adaptability.

Department and Agency Business Focus

To help determine the common objectives for Information Technology services required from the Departments and agencies individual executive interview sessions were conducted with each of the 40 departments/agencies.

The following Departments and agencies have participated in executive interviews, assessment surveys, feedback sessions and informational exchanges over the past 4 months. During these sessions each Department/Agency director provided direct input to a series of questions relating to the critical aspects of the Department, goals, barriers to doing business and various questions relating to use of technology to support the business. These interview notes were documented, sent back to the department/agency Director for updates. Based on final input, Coeur Group reviewed, categorized and analyzed the findings.



Chapter 8
Assessment Gaps
and Findings

Department for the Blind	Civil Rights
College Student Aid Commission	Commerce – Banking
Commerce – Credit Union	Commerce – Insurance
Commerce – Utilities	Corrections
Cultural Affairs	DAS – Core Services
DAS-ITE – Applications	DAS-ITE – I/3
DAS-ITE - Infrastructure	Economic Development
Education	Education – Vocational Rehabilitation
Elder Affairs	Ethics and Campaign Disclosure
Governor’s Office	Governor’s Office on Drug Control Policy
Human Rights	Human Services
Inspection and Appeals	Iowa Communications Network
Iowa Finance Authority	Iowa Law Enforcement Academy
IPERS	Department of Management
Natural Resources	Parole Board
Public Defense	Public Defense – Emergency Management
Public Employees Relations Board	Public Health
Public Safety	Revenue
Revenue – Iowa Lottery	State of Iowa Library
Transportation	Veterans Home
Workforce Development	AFSCME

Observations

Key observations regarding Department and Agency technology requirements have been identified during the interviews, surveys and research of current technology environment.

Departmental Requirements for Technology Services

Focal Point

The Common Executive Vision (CEV) requirements for Information Technology services are based around the ability and reliability of the technology provider to meet business drivers on a timely, cost effective basis. The delivered functionality of information may make or break the successful delivery of the departments' core mission to the state and its constituents.

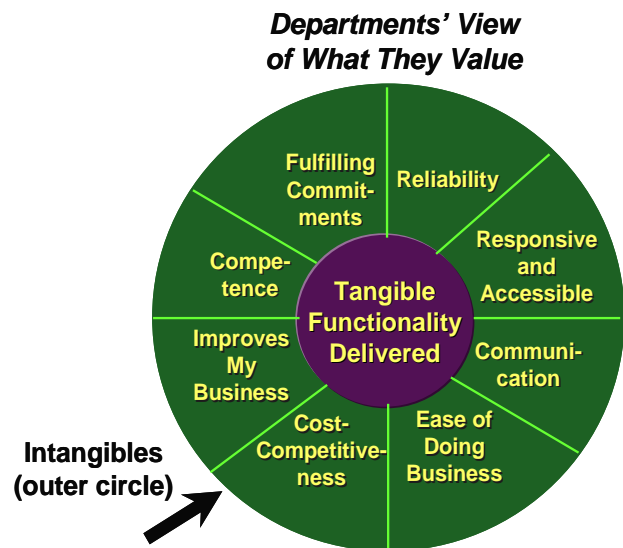
Key identified Information Technology services requirements for the State of Iowa are:

Reliability: The Departments require high reliability of services to run the business operations. Reliability is the number one issue for Department management.

Responsive and accessible: The Departments require access to information, whether it is on the local area network or in remote office locations or traveling around the state or nation.

Communications: Clear, concise communications are important between IT functions and the Departments--especially when defining requirements for project definitions. Communications is the number one failure point for gaining a more healthy trust relationship between Departments and current ITE.

Ease of doing business: A major concern of all departments is the difficulty in doing business with a centrally managed Information Technology support organization such as the current Information Technology Enterprise (ITE). ITEs focus on developing Service Level Agreements (SLA's) will help close this gap, but additional focus should be placed on business-to-business processes.





Cost competitive: Many Departments feel that ITE services are overpriced and not market-competitive. ITE has been working over the past 18 months to eliminate Federal Over Recovery issues and comparison between private sector and ITE services needs feature to feature comparison. ITE has reduced mainframe, storage, and other selected rates over the last 18 months. The ITTC, Iowa Telecommunications and Technology Commission, sets pricing for all services that the ICN sells. We recommend that ITEs policy of pricing needs review and additional communications to the departments will be necessary in order to position ITE service value vs. cost. The ITTC and ICN may also want to review their procedure for notifying customers of price changes to current users of ICN services.

Improve my business: Department heads really want IT to better enable the business processes of their Departments. Most Department heads, in fact, look for the IT organizations (IT/ITE) to provide them with technology to reduce the cost of Departmental operations.

Competence: Competence of IT resources remains a major concern for each Department head. With a significant percentage of the Iowa IT workforce reaching retirement age in the next 5 years, the potential for losing existing intellectual capital is high. Competency levels for operations of quality IT Operations, therefore, should remain a top priority.

Fulfilling commitments: Many Department heads have lingering concerns over a centrally managed Information Technology organization's ability to fulfill on commitments. Past practices have created a reputation for IT not fulfilling service levels, therefore developing deep distrust.

Business Drivers Identified

Focal Point

The Business Drivers identified across the departments are those external forces that directly influence the decision-making processes. It is important to recognize these drivers and the effect that they have on the decision-making process for each department. It is then the responsibility of Information Technology to help the departments satisfy these drivers so that the departments can achieve successful alignment with constituent requirements and expectations. These drivers have been identified as:



Security

User access
Homeland Security
Intrusion Detection

Data Management

Integrity
Accessibility
Storage

Regulatory

Compliance
Federal /State Programs

Cost Management

Effectiveness/Efficiencies
Avoidance

Service Delivery

Problem Management
Change Management
Service Level Agreements

Business/Constituent Alignment

Funding Process
Constituency Alignment
Strategic Focus

Assessment Findings and Trends

Focal Point

Coeur Group surveyed the Department Directors, the departmental IT Leaders (CIOs, IT Managers) and ITE. This survey is used to understand the value perceptions of those interviewed and the gaps in these perceptions. These gaps are identified between the Executives and their internal IT department versus the Executives and the current ITE.

The survey looks across three key areas of Information Technology: Business, Leadership and Technology. There are eighteen Best Practice programs across these three key categories. These categories break down into the best practice areas as follows:

Business

- Firm Grasp of IT Business Value
- Position Role and Use of IT within Business
- Respond to Competitive Technology Opportunities or Threats
- Time Critical Deployment of IT



Chapter 8
Assessment Gaps
and Findings

- Develop and Maintain Competitive IT Capability
- Continual IT Business Alignment

Leadership

- Establish and Align Expectations for IT
- Re-skill IT Personnel to be Business Literate
- Establish and Maintain IT Processes
- Promote and Drive IT Value Initiatives
- Manage Change and Culture Issues
- Measure and Communicate Value of IT

Technology

- Deploy and Maintain Applications
- Establish Stable and Reliable Operations
- Deploy and Maintain Infrastructure
- Establish and Maintain Sourcing Strategies
- Manage Technology Obsolescence
- Manage Critical Risks

Coeur Group Has Identified Seven Key Gaps That Need To Be Addressed

- Project Management & Service Delivery
- Require a Technology Architecture
- IT/Depart Align and Planning
- Business Acumen & CRM Interaction
- Sourcing Strategy & Supplier Mgt.
- Reporting & Measurements of IT Value
- Business Recovery and Issue Mgt.



Gap Trends and Implications

Gap #1: Project Management and Service Delivery

The assessment has defined a Gap in understanding of the levels of project management and maturity within and across the various departments. The Gap indicates that some areas believe they are at “Best Practice” while Departments believe Project Management is being provided on a sub-standard basis.

Finding and Implication

The state’s departments and agencies perceive a strong project portfolio management and governance process internally; however there has been limited observation of this practice across the departments included in this assessment.

Best Action: Conduct Project Portfolio Analysis

The projects that IT sources, develops and deploys are the primary value delivery mechanism – this is the tactical implementation of the entire value approach. A project inventory is one of the best actions to close this gap. Project leadership practices must also be business and value-driven, as well, to maintain the continuity of the value discipline. This strategic value-driven approach closes a gap between IT and the businesses, and reflects value on an on-going basis.

Identified Government Trend:

Early efforts in changing public policy investment strategies will alter IT projects funding, primarily through effective "Portfolio Management Strategies" and Enterprise Program Management Offices.



Gap #2: Technology Architecture

The current Technology Architecture is seen as non-existent or not deemed required by most departments and staff. The understanding for the need of a set of statewide technology standards is believed to be in place in most IT organizations. Essentially, most departments believe their departmental method is sufficient for localized standards.

Finding and Implication

While the view and desire to have standards and an architecture strategy is viewed as a key asset for Iowa, a statewide architecture strategy is not evident.

Best Action: Manage IT Architecture as a Process

Creation of an IT Architecture is essential for the state of Iowa and will provide clear standards which will reduce total cost of technology ownership. Managing IT architecture is a critical process that must be managed strategically and in a disciplined manner. IT architecture drives standards and practices, technology definition and strategy, infrastructure composition, and how a company connects with itself and others. Treating architecture as a strategic process is the critical first step in aligning IT with the business value requirements.

Identified Government Trend:

State Information Technology is moving toward a uniform architecture, as outlined by NASCIO and recommended by the Office of Justice Programs. States are looking at common architecture as a key governmental framework for information systems integration.



Gap #3: IT/Department Alignment and Planning
A significant Gap exist between Departmental IT and ITE in perceptions of aligning goals of technology with the departments business requirements.
Finding and Implication
A gap in the understanding of business requirements exists between ITE and the departmental IT. This gap must be bridged in order for ITE to serve its customers appropriately. Implications are the missed opportunities to support the department's goals with the appropriate technology.
Best Action: Define Business Value Position
The IT organization must demonstrate a clear understanding of the overall business and have a firm grasp of the value that IT can contribute. The technology strategy should talk in terms that relate to markets, customers and competitors, anticipating business needs and proposing technology solutions. The IT executive should actively participate in the planning process by proposing initiatives and offering suggestions and recommendations to deploy IT with a statement of the value and benefits. Each Department must develop an IT budget and operational plan. Additionally, a statewide Information Strategy must be developed concurrent with a centralized IT budget and spend plan to enable the governance board with directional input.
Identified Government Trend:
Major Government restructuring will increase an emphasis on consolidation and uniformity for Common Business Practices for aligning IT and Department business.



Gap #4: Business Acumen and CRM Interaction

A critical requirement of the Departments is the detailed understanding of the business requirements for technology. Relationship development and understanding of the business requirement for a department are high priorities of the department directors.

Finding and Implication

The gap in Customer Relationship practices is prominent. The departments require immediate, hands-on customer service that meets their business requirements that is not perceived to exist from ITE services. This implies a need for senior level Information Technology managers to define Department and Agency business requirements and requirements for technology on an ongoing basis.

Best Action: Implement Relationship Management

Customer and supplier management functions are an emerging new management tool for IT practitioners. As more IT functions have been sourced to third parties, and the business constituents' demands increase, managing relationship is essential. IT cannot manage change, cultural issues and the related business value without a sound relationship management process supported by a reliable value measurement system. Each Department needs specific focused applications and services. The Customer Relationship Management function should be initiated to ensure all departmental mission critical technology needs are identified, planned and implemented.

Identified Government Trend:

Over the next twenty-four months, Business Relationship Managers (BRMs) will evolve from Unit Level "IT Account Managers" to the Executive Level, with 50% of Jurisdictions using this role in the development of Program Policy as well as Strategic and Tactical Planning.



Gap #5: Sourcing Strategy and Supplier Management

Decision regarding procurement of technology is largely dispersed across the department technology organizations. Significant leverage is being lost using disparate buying agreements.

Finding and Implication

There is little evidence of Value sourcing in the state's practices. A centralized IT sourcing strategy, aligned with the business and architecture, would better exploit economies of scale on a statewide basis, offering significant cost savings. Currently 30 suppliers of technology receive over 80% of the Total Technology spend for the state. None of these suppliers has a relationship manager dedicated to developing performance measurements or defining performance expectations. Most make vs. buy decisions are being made at a localized department level. Vendors are able to leverage decentralized purchasing decisions into higher margins and profitability.

Best Action: Define Sourcing Strategy

The state's Information Technology organization must develop a defined "make vs. buy" decision process with respect to its IT products and services. Performance Scorecards and development of strategic partnering strategies must be instituted as soon as possible to leverage significant savings opportunities in these areas of procurement. Sourcing arrangements with strategic partnering suppliers permits the state of Iowa to focus on what it perceives to be its core business and avoid the management of high cost, low value functions. The role of sourcing cannot be divorced from the IT provider's value in that suppliers have an increasingly critical impact.

Identified Government Trend:

Scarcity of budget dollars will drive enterprise rationalization of solutions and resource management across each Government Jurisdiction.



Gap #6: Reporting and Measurements of IT Value

A significant Gap exists in implementation and understanding of IT measurements within the departments.

Finding and Implication

Many departments believe they manage through value metrics; however a communication gap to the executives is apparent. Other than a few noted departments, performance scorecards are not evident across the state. Management to a balanced scorecard gives a consistent feedback loop and increases the understanding of accountability.

Best Action: Define Business Value Metrics

There is a compelling need to measure IT value using the same metrics used to operate the business. The Information Technology organization must implement a standard set of performance scorecards across all EIP departments and agencies. The true impact of technology will only be realized when such measures are consistently applied and communicated to the constituents. Using business metrics will make IT investments more defensible and compelling when compared to proposals without such business relevance.

Identified Government Trend:

Budget restrictions will force the need for greater IT accountability, with increased focus on Performance Scorecarding & Best Actions (not Benchmarking) and documentation of results.





Gap #7: Business Recovery and Issue Management

Although a major focus on security has been initiated and numerous gaps have been closed, the state still does not have a statewide technology backup and business recovery plan. A clear Gap exists in that many departments perceive that their localized security and data storage strategies and practices suffice for a statewide Business Recovery Plan.

Finding and Implication

The respondents show no lost time or business due to critical failures. Observations have shown, however, that the state has been struck by viruses in particular. A Business Continuity Plan is not evident statewide.

Best Action: Conduct Critical Risk Analysis

Risk management is an integral component of value management in that all value is "at risk." Business, financial, technology, project and personal risks are within the broader, more strategic risk management approach. Better risk management will have a bottom line impact that can be measured in business terms. A Business Case based approach to defining risks and benefits for all IT investments is a clear recommended action across all EIP Departments and Agencies.

Identified Government Trend:

In the next two years, Privacy/Security Mandates will require IT Organizations to re-evaluate existing practices in light of the physical and digital security requirements for Federal, State, Local, and International Government interfaces.



IT Organization and Service Delivery

IT Operational Process Maturity Measurement Focal Point

To effectively develop and improve operational processes, and to maintain (and gain) resources for ongoing operational support, IT operations groups must determine, formalize, and communicate operational process maturity. Although process maturity modeling will materialize in various forms through 2005, the overall measurement and reporting of process performance, specifically for key IT operational process elements such as definitions, cross-process integration points, skills and staffing, automation, and metrics will be one of the primary operational success factors.

IT operations groups are increasingly faced with executive mandates to show evidence of their operational performance relating to the business.

Requests relating to IT operational return on investment, proof of concept, and comparison to IT support services available in the market will double through 2004, as organizations prepare for economic impact and examine potential low-cost alternatives (e.g., application service providers, management service providers, traditional outsourcing).

Therefore, IT operations groups must prepare to effectively articulate their overall performance, and ultimately communicate the value they bring to the business. Coeur Group research indicates IT operational groups will begin to derive models designed to convey current operational performance, incorporating organizational and improvement initiatives by 2004. IT operations groups will build maturity models around processes, as task volumes and platform diversity make task-level measurement virtually impossible.

For many IT organizations, operational problems (e.g., resource allocation issues, poor process integration and work handoffs, difficulty in effectively prioritizing work efforts, organizational structuring issues) are caused by poor or non-existent formalized processes. That is, there is a lack of defined processes that articulate how operational activities are to be performed across platforms, as well as accountability for those processes. Coeur Group research indicates that less than 20% of IT organizations have a catalog of their operational processes, and less than 3% have up-to-date processes that meet their operational needs. As a result, most IT operations groups perform their day-to-day activities in an ad hoc (i.e., firefighting) manner.

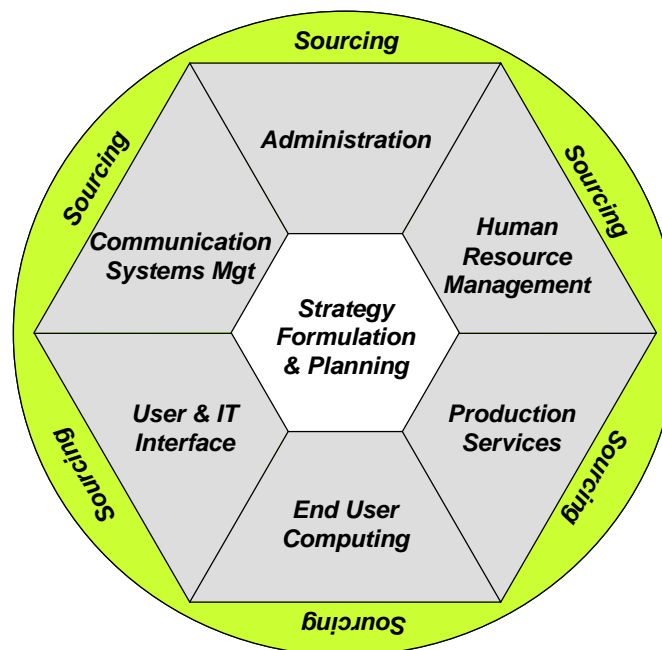
*META Trend:
During 2002/03, IT groups will assess operational process maturity and formalize process models. Through 2004/05, IT efficiency growth will focus on process integration, measurement, and aggregation of synergistic process groupings (i.e., centers of excellence). Through 2006, change, configuration, and asset management process automation will remain high-cost options.*

Source: META Group



A measure of Iowa's Information Technology Organizations ability to deliver required services was gathered through the use of an operational workshop based in IT operational "Best Practices" and industry standards. Coeur Group's assessment tools for operational maturity are based on recognized international standards utilizing Control Objectives for Information Technology (COBIT) as well as those of the Information Technology Infrastructure Library (ITIL).

The assessment provided a top level self assessment of over 134 operational elements which describe control points for IT operations and management control. Each area is measured for effectiveness and efficiency, as well as maturity level. The relationship among these areas is depicted in Figure below.



Each of the eight operational areas is interrelated, with Strategy Formulation and Planning being at the heart.

Observations

Key observations regarding the operational maturity of Iowa's information Technology organizations (Departmental and ITE) are described in the categories below:

Operational Maturity Levels

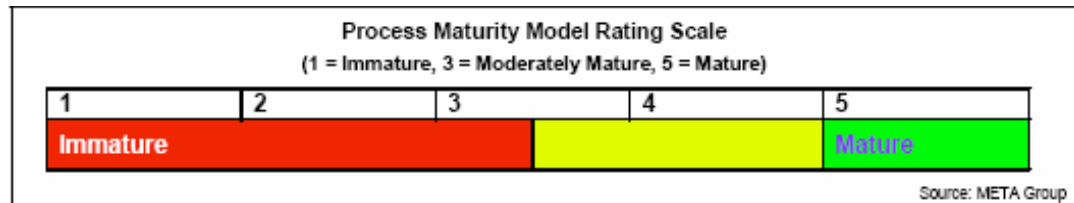
Focal Point

A key outcome of the Operational Assessment described in the previous section is an understanding of the current capability maturity levels of each



department's Information Technology. Important to this assessment is the overall maturity level evident on a statewide basis.

Coeur Group reviewed the maturity level by department and rolled these up into an enterprise-wide view in order to assess the state's organizational agility. The Figure below shows the identified maturity levels statewide for each of the eight programmatic areas.



The typical maturity rating levels are shown in the above Figure. This represents relational maturity levels based on a standard of assessment for Information Technology operations.

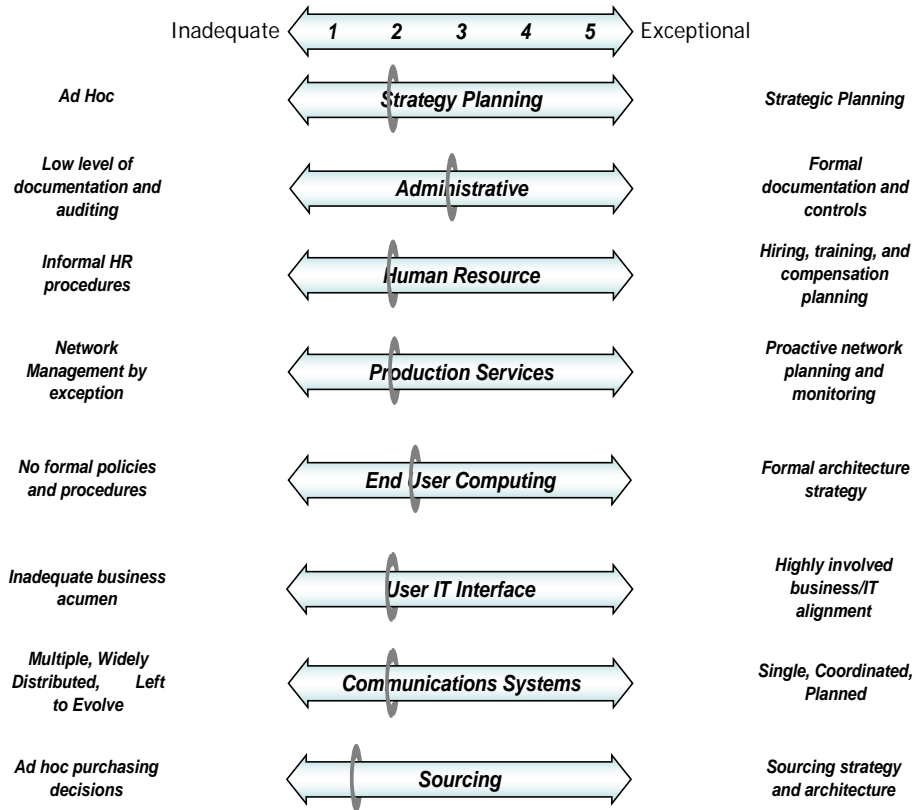
Observations

The following paragraphs provide an overview of the operational maturity assessment for Iowa's statewide capability. Even though some departments have high levels of maturity in their operations, as a consolidated view across the EIP departments and Agencies, we have defined specific areas which should be addressed to improve the effectiveness and efficiencies of the technology operations.

Information Technology Leadership and Best Practices

Assessment of the Information Technology operational maturity levels provides an indication of the capabilities and capacity for change (i.e. Agility). Based on Information Technology control objectives, the state of Iowa as viewed across these departments shows good maintenance operational levels of maturity. Improvements should be focused on increasing those operational controls which will increase investment leverage such as a sourcing strategy and Customer Relationship Management. Both of these areas improve IT value recognition and develop greater value capture. Below are descriptive areas of the maturity assessment as derived on a statewide basis.

Operational Maturity Levels



The following are descriptions of the control categories of the IT Operational assessment.

Strategy Planning

Maturity Level 2: Much of the IT planning across the state leans toward ad hoc planning. What strategy and planning that is in place has a fairly low level of effectiveness.

Iowa needs a formal strategy and planning program aligned with the business drivers and vision to help develop a more agile, mature information technology program.

Administrative

Maturity Level 3: The state shows an adequate level of technology administration, though this proves to be somewhat compartmentalized, with certain departments doing a significantly better job than others.



The skill set for administration lies with a few departments. It is necessary to increase maturity that the enterprise is able to take advantage of this maturity.

Human Resource

Maturity Level 2: There is little evidence of Best Practices in effect statewide, with the exception of written job descriptions and performance reviews.

Iowa faces a human capital crisis, with a large portion of the workforce retiring in the next 10 years. Succession planning, career development, and competitive wages/incentives are important steps to meeting the future human capital requirements.

Production Services

Maturity Level 2: From an operational level statewide, information technology attempts to meet the production needs, however it has not been as effective as needed. Maturity can be raised through a statewide inventory of all assets and regular monitoring/management of performance.

End User Computing

Maturity Level 2.5: Key strengths here lie in technical operations and technical management. The maturity is decreased partially due to lower maturity in the non-technical aspects of this category, such as business and personnel management and planning.

Maintaining the strengths in technology, the state is best served by focusing in this category on planning and business alignment.

User IT Interface

Maturity Level 2: Project management, opportunity identification and communication all show very low maturity. Project management and opportunity identification are keys to build Iowa's IT/Business alignment.

Communications Systems

Maturity Level 2: Statewide, communications systems management is low; however some departments show strengths here.

Leveraging the higher skills and maturity across all departments will help build the speed and security of this critical area.

Sourcing



Chapter 8
Assessment Gaps
and Findings

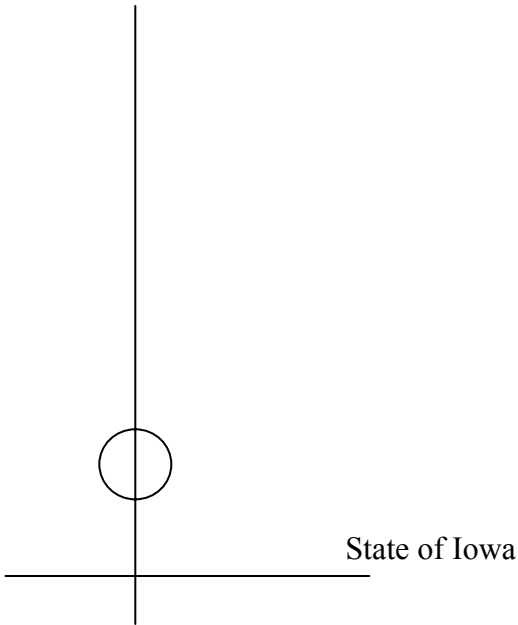
Maturity Level 1: There is no evidence of a statewide sourcing program. Individual departments buy individually. Some cost leveraging happens ad hoc.

An enterprise-wide sourcing program is required to best leverage price. Additionally, vendor management programs need to be in place to realize the full benefits of key suppliers. Development of supplier relations on a strategic/preferred/commodity basis allows procurement to concentrate on those purchases that add significant value to the organization.





Chapter 8
Assessment Gaps
and Findings



Chapter 9 – Financial Findings and Impacts

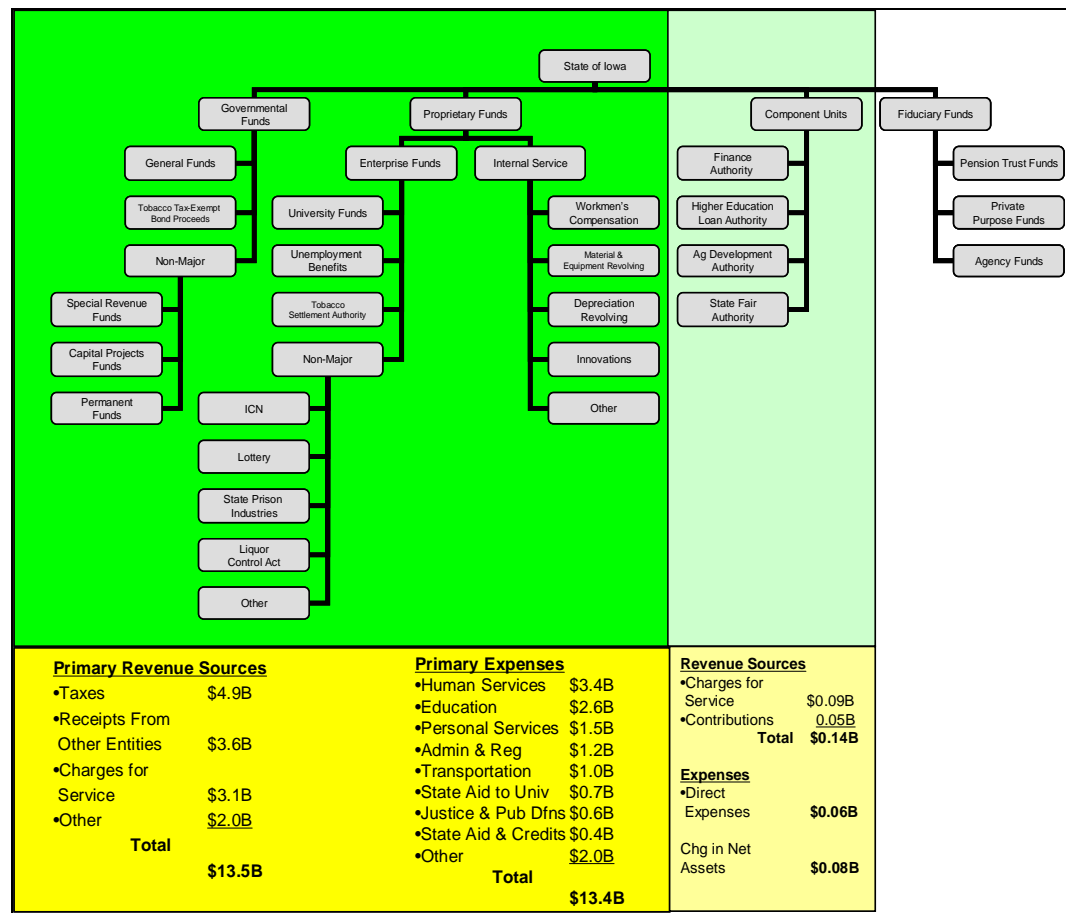
Chapter 9 Financial Findings and Impacts

Financial Impacts

In performing this Assessment, Coeur constructed a number of financial models with which to examine the current and potential future funding flows within Iowa's collective IT organization. Data for these models were obtained from a number of different sources within Iowa state government, as well as from industry research conducted by Coeur and other organizations.

State Financial Structure

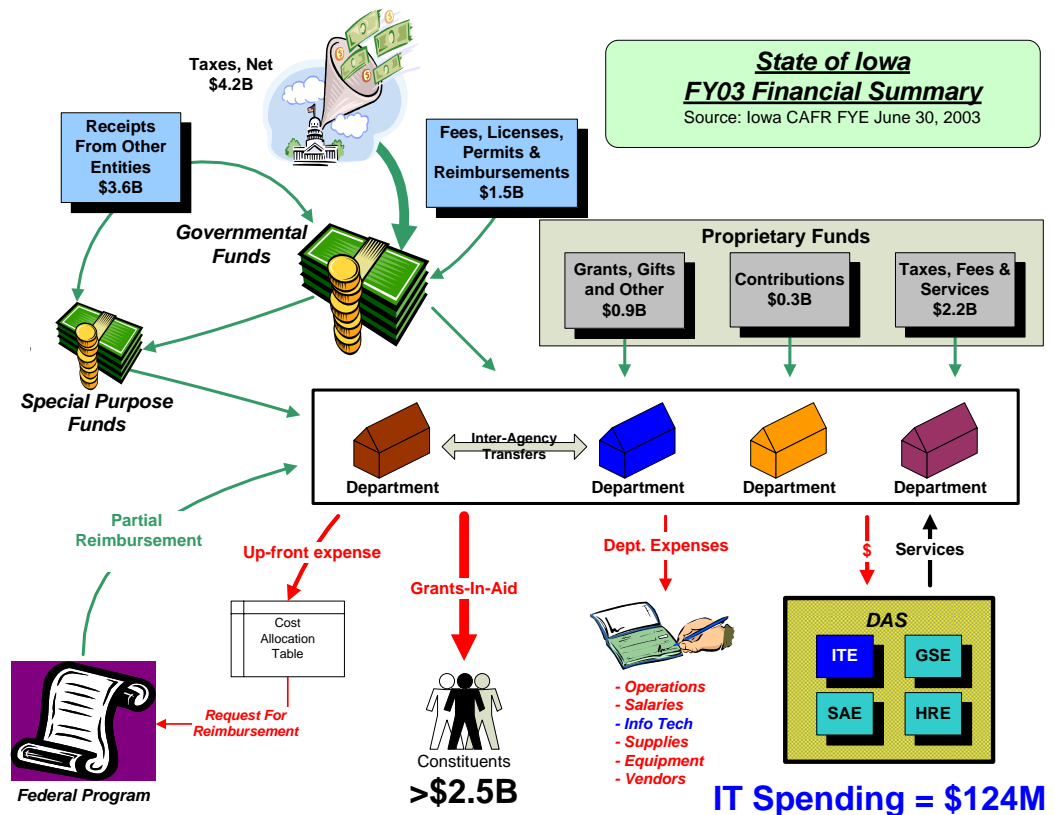
The State of Iowa utilizes a series of accounts, called "Funds", to organize, finance, monitor and manage department and agency activities. Departmental and agency operations are partially or fully financed from one of the various funds within this framework. Funds are appropriated resources from the General Fund, have the ability to generate their own revenue, or receive funding from entities outside the State of Iowa. The funds in turn disperse resources to the State departments and agencies to finance programs and operations. A diagram of the Fund structure is provided below.



This diagram provides evidence of the complex nature of the State of Iowa's fund structure. The darker green section represents the primary government activities and the framework established to track the funding and expenses of most governmental operations. The lighter green section represents other operations that are legally separate from the State of Iowa, but for which the State is financially accountable. The white section represents Fiduciary Funds. These funds represent assets held by the State as trustee or agent for others. Because the State cannot use these assets to finance operations they are not included in government-wide financial statements. (Source data for this chart is the Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2003.)

Funding Flows

The State of Iowa currently funds operations from a variety of sources. Primary funding flows to the departments and agencies through appropriations from the General Fund by the General Assembly and the Governor. The State's primary sources of revenues are income taxes, licenses, permits and fees. Federal programs also play a significant role in funding department and agency operations. A general picture of the source and flow of funds for the entire State of Iowa is shown in the diagram below:



This diagram illustrates the complexity of funding and resource disbursement throughout the State of Iowa. While it does not completely depict the



underlying intricacies, it does provide a good high level view of how funds flow from various sources through the departments to finance operations and constituent support. Primary source of funding is the General Fund (Governmental Funds) with additional resources provided directly to the departments through the Proprietary Funds channel. Primary complexities are introduced through the myriad of federal and other program reimbursement schemes that require sophisticated cost allocation methodologies to maximize program resources. (Source data for this chart is the Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2003.)

IT Expenditure Data

Data on the current IT environment in the participating EIP departments were collected through the use of the EIP Assessment Workbook, which was devised by the EIP Project Team. Department CIOs, or acting IT lead managers, were asked to complete the workbooks for their department. Data requested in the workbook included:

Personnel counts and costs: Job classifications, FTE counts and costs

Tech spending and installed base: Inventory and non-inventory expenditures, network-attached devices by operating system, mainframe, minicomputer and server technical statistics

Outside service spending: ITE, ICN and vendor spending by IT category, and the associated internal staff hours

Occupancy costs: Square footage for office, equipment and mainframe, and its maintenance costs

Infrastructure support: Costs for standby generators, HVAC and UPS; and information on the department's business continuity plans

Current projects: Project name, description, status, purpose and agency function supported

Applications: Application name, solution domain, agency function supported, hardware and OS platform, DBMS, programming language, and FTE support requirements

The data collected with this tool was not consistent or complete across all departments. However, Coeur was able to learn a great deal about these operations through this data. To the extent possible, Coeur validated the data with department CFO's in follow-up meetings.

Additional vendor spending data was obtained from the Department of Administrative Services. This data included invoice amounts, vendor names, spending department and object codes used. Coeur conducted extensive



analysis of this data to examine spending patterns across the participating EIP departments. Areas reviewed included spending by vendor, by agency and by object code. This detailed data could not be directly compared to the spending data provided in the EIP Assessment Workbooks, other than at a very high level; however, Coeur found the two data sets to be fairly consistent, thus providing some validation of the analysis.

Data was provided by each of the Departments/Agencies participating in the EIP Assessment. Costs were provided for State of Iowa Fiscal Year (FY) 2003 (July, 2002 through June, 2003). The table provided below indicates which of the cost categories, defined above, were reported by each department or agency.

Department	Personnel Count & Cost	Technology Spending	Technology Devices	Technology Installed Base	Occupancy Cost	Infrastructure Cost	Outside Services
Blind	X						
Civil Rights Commission	X		X				
College Student Aid	X	X	X	X		X	
Commerce - Banking	X	X	X	X			
Commerce - Credit Union	X	X	X	X			X
Commerce - Insurance	X	X	X	X	X	X	
Commerce - Utilities Board	X	X	X				X
Corrections	X						
Cultural Affairs	X	X	X	X		X	X
DAS - General Services Enterprise	X	X					
DAS - Human Resources Enterprise	X	X					
DAS - Information Technology Enterprise	X	X		X		X	
DAS - State Accounting Enterprise							
Included in Revenue data							
Economic Development	X	X	X	X	X	X	
Education	X	X	X	X	X	X	X
Education - Library Services	X	X	X	X		X	X
Education - Vocational Rehab	X	X	X	X	X	X	X
Elder Affairs	X	X	X	X			X
Ethics & Campaign Disclosure	X	X	X	X			X
Finance Authority	X	X	X	X	X	X	X
Human Rights	X	X	X				X
Human Services	X	X	X	X	X	X	X
Inspection & Appeals	X	X	X	X		X	X
Iowa Communications Network	X	X	X			X	
IPERS	X	X	X	X	X	X	X
Law Enforcement Academy	X	X	X	X		X	
Lottery	X					X	X
Management	X	X	X				
Natural Resources	X	X	X	X	X	X	X
Parole Board		X	X				
Public Defense	X	X	X	X		X	
Included in Public Defense data							
Homeland Security/Emergency Management							
Public Health	X	X	X	X		X	
Public Safety	X	X	X	X		X	X
Revenue	X	X	X	X		X	X
Transportation	X	X	X	X	X	X	X
Included in Veterans Home data							
Veterans Affairs							
Veterans Home	X	X	X	X	X	X	
Workforce Development	X	X	X	X	X	X	X

The data reported by each department/agency were totaled by cost category to obtain a statewide summary. The resultant total IT spend for the departments and agencies participating in the EIP Assessment for Fiscal Year 2003 (FY 03) was \$122.3 Million. The summary results by cost category and total spend are depicted in this chart.

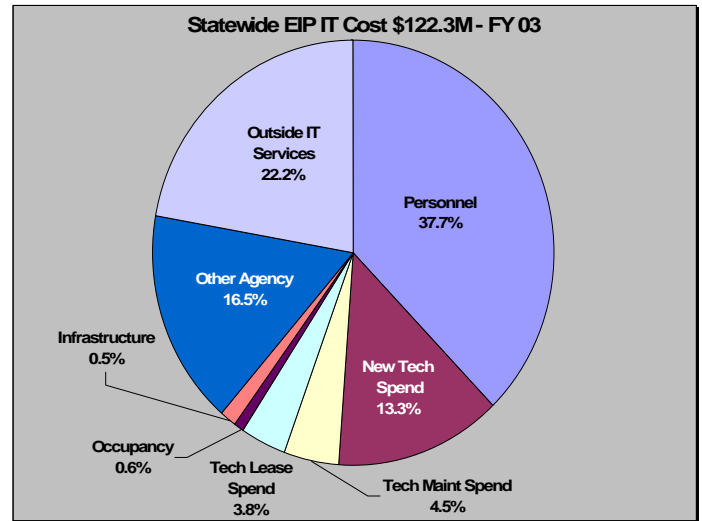
As the data indicates, labor costs including Outside IT Services represent almost 60% of the total EIP IT cost. Annual spending on technology represents another 21.6% of the total IT cost. Finally, Other Agency cost,



which is comprised almost exclusively of costs charged to the EIP departments and agencies by ITE for services, represents another 16.5% of the total IT spend.

Personnel Counts and Costs

This section of the spreadsheet provides the number of Full Time Equivalent (FTE) personnel in each department that perform an IT related function. Costs are reported by job classification and then grouped into primary IT operational categories. The operational categories are listed below:



- Desktop/help desk support
- Network/communications support
- Server management/administration
- Mainframe operations
- Mainframe systems software
- Database support
- Applications support
- Mainframe application development
- Server application development
- Planning and support
- Management and leadership

In addition to the number of FTEs identified with each operational area, the spreadsheet also provides an estimate of the associated annual labor cost. Annual labor cost is factored to add an additional 25% of the base labor cost to account for personnel benefits paid to state employees.

Coeur Group further summarized the costs into six (6) primary IT operational categories. The table below provides a cross-reference between the six primary categories and the operational areas provide by the state departments and agencies.

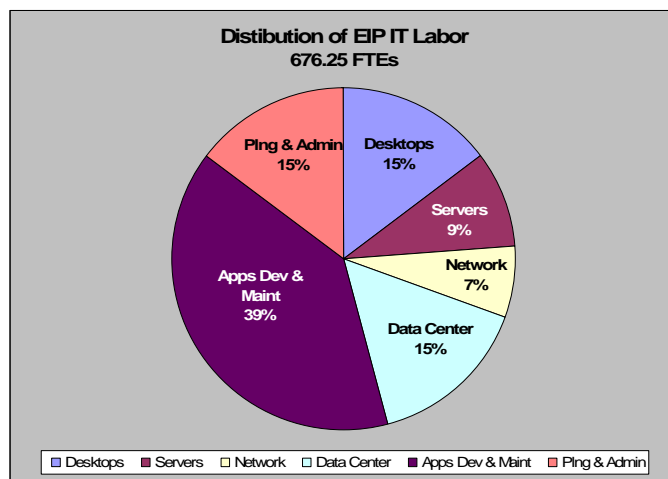


Desktops	Desktop/help desk support
Network	Network/communications support
Servers	Server management/administration
Data Center	Mainframe operations Mainframe systems software Database support
Applications Development & Maintenance	Applications support Mainframe application development Server application development
Planning & Administration	Planning and support Management and leadership

The grouping of activities provided in the table above is used throughout this report to describe, define and provide characteristics of the state's IT organization and function.

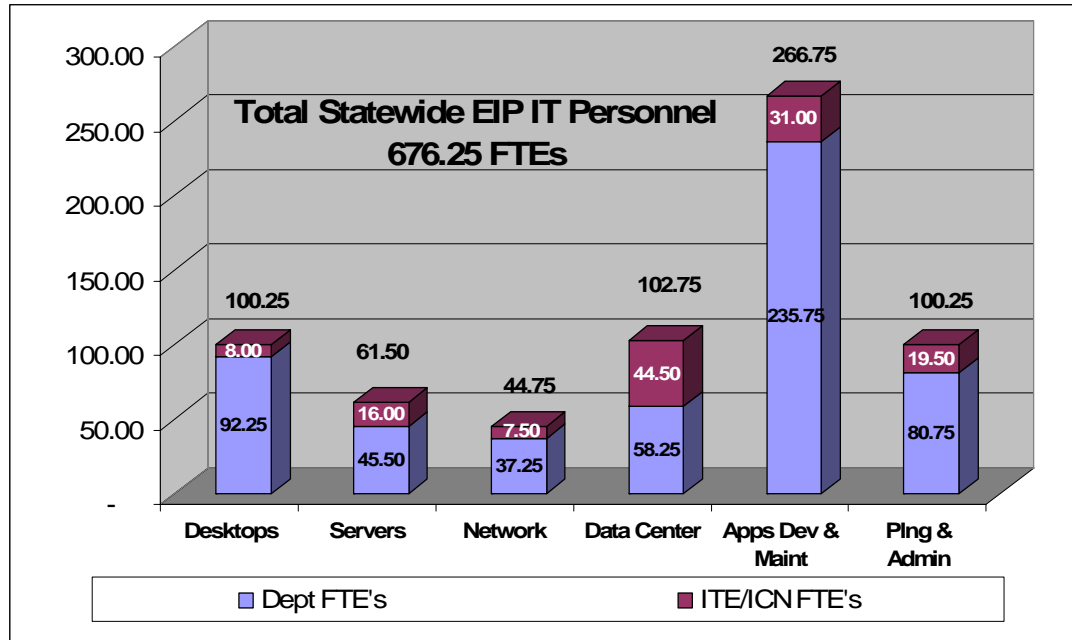
The State of Iowa uses a combined approach to deliver IT services to the various state departments and agencies. IT-related activities are primarily performed by personnel who are part of the individual department or agency. These resources are augmented by personnel in the Department of Administrative Services (DAS) Information Technology Enterprise (ITE) organization. Both the departmental/agency and ITE organizations are capable of providing an array of services that are required to meet the state's need for technology support. The chart below provides the total personnel distribution of IT operations service delivery.

Since the state uses a combined approach to deliver IT services, a breakdown of the state FTE resources is provided below that defines the distribution of effort between the departments/agencies and the ITE organization.





Chapter 9
Financial Findings
and Impacts



The total labor and benefits cost for the state FTEs included in the EIP Assessment, by IT operational category, is provided in the table below. The data is based upon the average labor cost for FY 2002, FY 2003 and FY 2004.

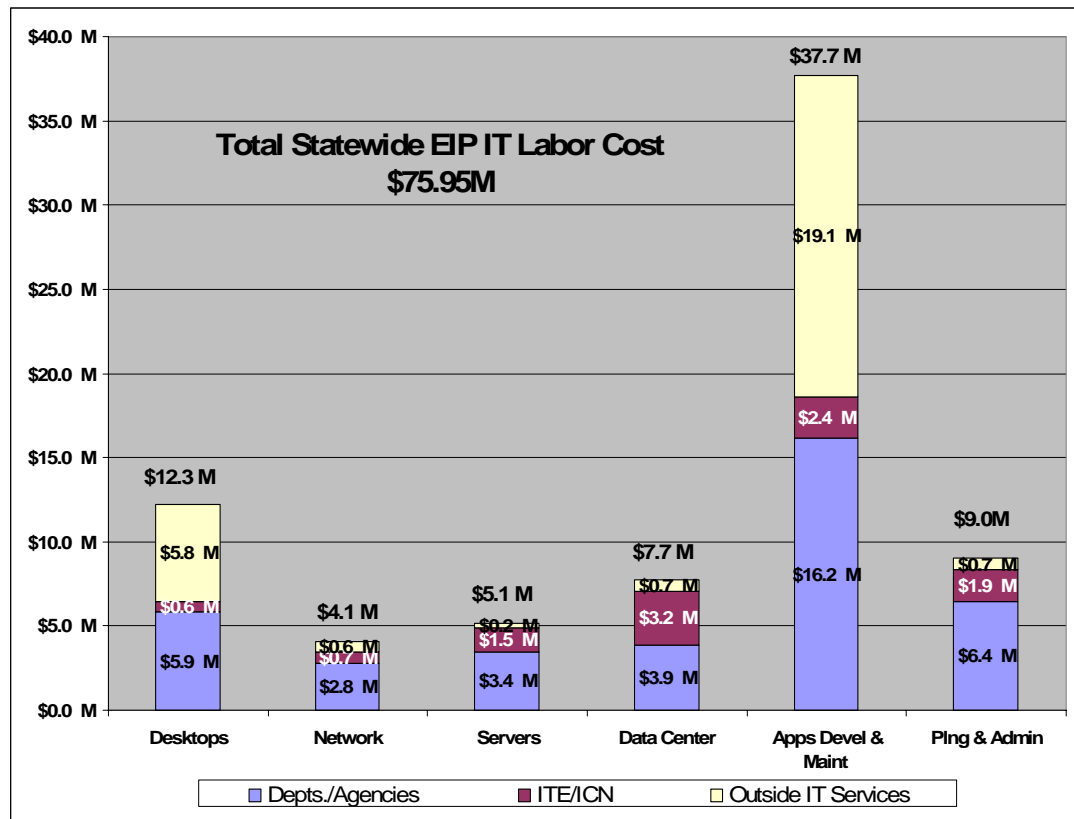
	Depts./Agencies		ITE/ICN		Total	
	FTEs	Cost \$ (M)	FTEs	Cost \$ (M)	FTEs	Cost \$ (M)
Desktops	92.25	\$5.87	8.00	\$0.60	100.25	\$6.47
Network	45.50	\$2.78	16.00	\$0.70	61.50	\$3.48
Servers	37.25	\$3.45	7.50	\$1.45	44.75	\$4.90
Data Center	58.25	\$3.89	44.50	\$3.15	102.75	\$7.05
Apps Devel & Maint	235.75	\$16.17	31.00	\$2.42	266.75	\$18.60
Plng & Admin	80.75	\$6.44	19.50	\$1.90	100.25	\$8.34
Total	549.75	\$38.61	126.50	\$10.23	676.25	\$48.84

In addition to personnel employed by the State of Iowa, the departments and agencies contract with outside IT service providers to supplement their staffs in various operational areas, but primarily focused on Applications Development & Maintenance. The table below provides total labor cost, including operations performed by Outside IT personnel.

	Depts./Agencies	ITE/ICN	Outside IT Services	Total
Desktops	\$5.87	\$0.60	\$5.78	\$12.25
Network	\$2.78	\$0.70	\$0.61	\$4.09
Servers	\$3.45	\$1.45	\$0.23	\$5.13
Data Center	\$3.89	\$3.15	\$0.69	\$7.74
Apps Devel & Maint	\$16.17	\$2.42	\$19.11	\$37.70
Plng & Admin	\$6.44	\$1.90	\$0.69	\$9.03
Total	\$38.61	\$10.23	\$27.11	\$75.95



Below is a chart that provides total cost by operational area, identifying the contribution by the State FTEs and the Outside IT service providers.



A review of the Personnel data provides the following conclusions:

- Department/Agency personnel represent 81% of the State employee IT FTEs and 79% of the state employee IT labor cost.
- Almost 40% of the state employee FTE's are engaged in Applications Development and Maintenance. This represents more than twice the level of the next closest operational areas – Data Center and Desktops at 15% each.
- When combined with the Outside IT Services cost, the state employees represent less than two thirds (64%) of the total EIP IT labor cost. Outside IT Service labor costs represents 36% of total EIP IT labor.
- Total Applications Development and Maintenance labor cost, including Outside IT Services, represents nearly 50% of the total EIP IT labor cost.

Technology Spending and Installed Base

Technology Spending

The EIP departments and agencies reported spending on technology-related products and services of \$26,379,264 in FY 2003. Coeur was able to enlist the



assistance of the Department of Administrative Services (DAS) to provide some additional insight into vendor spending. DAS provided vendor spending data from the state accounting records for FY 2002, 2003, and 2004. The departments and agencies reported vendor spending according to the following breakdown by area of operations:

FY 2003 Inventory and Non-inventory IT Expenditures	Total Cost (\$)	Purchased			Leased	
		Hardware	Software	Maintenance	Hardware	Software
Mainframe Equip/Channel-attached printers/SW/Maint	\$ 4,546,631	\$ 359,952	\$ 8,800	\$ 1,796,286	\$ 751,052	\$ 1,630,541
Mid-Range Equip/SW/Maint	\$ 913,572	\$ 327,917	\$ 321,417	\$ 264,238	\$ -	\$ -
Desktop/Laptop Equip/Local-network printers/SW/Maint	\$ 10,526,893	\$ 6,126,686	\$ 2,302,852	\$ 1,265,587	\$ 575,086	\$ 256,682
Servers/Peripheral Equip/SW/Maint	\$ 7,307,026	\$ 2,736,042	\$ 2,400,861	\$ 1,111,234	\$ 250,989	\$ 807,900
Network Equip/SW/Maint	\$ 2,319,805	\$ 789,877	\$ 204,836	\$ 1,000,509	\$ 298,152	\$ 26,431
Miscellaneous IT Equip/supplies/parts	\$ 765,337	\$ 733,769	\$ 3,000	\$ 28,568	\$ -	\$ -
TOTAL	\$ 26,379,264	\$ 11,074,244	\$ 5,241,766	\$ 5,466,422	\$ 1,875,279	\$ 2,721,554

The DAS data indicated that expenditures on IT related products and services was generally very similar to the levels and distribution as that reported by the departments and agencies. The DAS data for FY 2002-2004 is summarized in the table below.

Total IT Vendor Spend							
2002			2003		2004		Spending
	Spend \$	No. of Vendors	Spend \$	No. of Vendors	Spend \$	No. of Vendors	3 Yr. Avg.
Hardware							
Desktop,Laptop Computers	\$ 4,384,680	27	\$ 6,315,752	24	\$ 4,395,504	27	\$ 5,031,979
Peripheral Equipment	\$ 1,592,259	92	\$ 1,692,824	68	\$ 1,090,024	61	\$ 1,458,369
Midrange, Other Servers, Ecomm, Internet Eqpt	\$ 1,126,256	19	\$ 1,047,938	19	\$ 862,540	24	\$ 1,012,245
Mainframe Equipment	\$ 1,436,361	3	\$ 697,798	11	\$ 511,733	3	\$ 881,964
Network Equipment	\$ 951,250	28	\$ 1,745,998	23	\$ 1,585,595	19	\$ 1,427,614
Hardware Sub-Total	\$ 9,490,806		\$ 11,500,310		\$ 8,445,396		\$ 9,812,171
Software							
Desktop/Laptop Software Purch & Maint.	\$ 2,359,504	55	\$ 2,730,296	40	\$ 2,293,080	36	\$ 2,460,960
Peripheral Sware Purch	\$ 395,938	55	\$ 594,643	44	\$ 713,267	31	\$ 567,949
Midrange, Other Server Software Purch. & Maint.	\$ 2,261,034	88	\$ 3,199,100	85	\$ 2,658,476	68	\$ 2,706,203
Mainframe Software Purch & Maint.	\$ 3,164,480	66	\$ 2,916,129	59	\$ 2,999,491	60	\$ 3,026,700
Network Software Purch. & Maint.	\$ 2,225,234	87	\$ 1,547,296	76	\$ 1,444,302	84	\$ 1,738,944
Software Sub-Total	\$ 10,406,190		\$ 10,987,464		\$ 10,108,616		\$ 10,500,757
Maintenance							
Desktop, Laptop Maintenance	\$ 666,958	47	\$ 906,181	56	\$ 766,524	41	\$ 779,888
Peripherals & Printing Maintenance	\$ 713,290	80+	\$ 681,323	80+	\$ 451,409	70+	\$ 615,341
Midrange, other servers, ecommerce	\$ 486,336	27	\$ 401,476	22	\$ 602,947	17	\$ 496,920
Mainframe Equipment Maint	\$ 1,341,742	15	\$ 1,255,805	10	\$ 1,162,999	11	\$ 1,253,515
Network Hardware Maintenance	\$ 2,265,290	27	\$ 2,514,367	29	\$ 2,438,899	32	\$ 2,406,185
Maintenance Sub-Total	\$ 5,473,616		\$ 5,759,153		\$ 5,422,778		\$ 5,551,849
Total IT Vendor Spend							
	\$ 25,370,612		\$ 28,246,927		\$ 23,976,790		\$ 25,864,776

The data provided by DAS for FY 2004 is not 100% complete. The 2004 data reflects actual costs through May 2004, whereas the actual FY end is June 2004. This explains the apparent decline in spending from FY 2003 of \$28.2 million to FY 2004 of \$24.0 million. Coeur estimates a complete FY 2004



value, projected from the first eleven months of data, would be in the \$26 - \$28 million range.

In FY 2003 the State purchased IT related products and services from over 500 different suppliers. However, only 30 suppliers represented 80% of the total vendor spending as shown in the table below. As depicted in the data, the multiple state agencies were purchasing from the same vendor and many individual vendors were providing a variety of different products to those agencies. This situation provides an opportunity for the state to reduce overall IT procurement costs by leveraging vendors that provide a variety of products and to shrink the supplier base by consolidating purchases of the same item to a limited number of preferred suppliers. An initiative to leverage/consolidate vendors requires an analysis of existing contractual responsibilities defined in the various vendor purchase order terms and conditions. Some purchase order requirements may limit the ability of the State to immediately realize the anticipated cost reduction and vendor management benefits of this approach.

FY 2003		
Vendor Name	No. of Product Categories	No. of Agencies Buying
ASAP SOFTWARE EXPRESS	11	28
DELL MARKETING LP	8	13
IBM CORPORATION	15	7
HEWLETT PACKARD CO	1	22
POMEROY COMPUTER RESOURC	15	18
ADVANCED TECH GROUP INC	1	1
IOWA INTERACTIVE, INC.	1	1
LUCENT TECHNOLOGIES, INC	1	1
COMPAQ COMPUTER CORP	11	16
AMERICAN MANAGEMENT SYS	2	2
STORAGE TECHNOLGY CORP	7	2
XEROX CORPORATION	5	2
GATEWAY COMPANIES INC	4	12
COMMERCE BANK	13	13
SILICON PLAINS TECH INC	5	2
SOGETI USA	2	2
ORACLE CORPORATION	4	3
COMMVAULT SYSTEMS INC	2	1
VITAL SUPPORT SYSTEMS	8	8
INTELLIWORXX INC	2	1
INTEGRIS INC	2	2
COMPUTER PROJECTS, INC.	3	1
SAS INSTITUTE INC	3	2
CIMS LAB INC.	1	1
MIDLAND SYSTEMS INTEG	9	3
AMERICAN COMPUTER SERVICE	1	1
NORSTAN COMMUNICATIONS	2	1
GETRONICSWANG CO LLC	6	4
NORTEL NETWORKS INC	1	1
INFORMATION BUILDERS INC	1	1

An analysis of the spending data indicates the following trends:



- Spending on technology hardware averages in the \$10 - \$12 million range annually.
- Desktops represent approximately 50% of hardware spending.
- Spending on software averages in the \$8 - \$11 million range annually.
- Software spending is distributed fairly evenly among desktops, servers and mainframes with each area accounting for \$2.5 - \$3.0 million annually. These three categories comprise almost 80% of expenditures yearly.
- Spending on hardware & software maintenance averages \$5 - \$6 million annually.
- Network Hardware Maintenance represents almost 50% of the annual spending in the Hardware/Software Maintenance category. Another 22% - 23% of spending in this category is for Mainframe Equipment Maintenance.
- There are a large number of vendors in each of the product and service categories, with the exception of Mainframe Equipment Hardware. This condition indicates that substantial savings may be generated from implementation of a vendor management program to leverage and consolidate the state's purchasing power.

Technology Devices

Each of the Departments and Agencies were asked to provide a count of the number of technology devices under their control. A summary of these devices is provided in the table below.

Count by Type of Operating System							
Windows Based Devices	Pre-NT	NT	2000	2002/XP	2003	Total	
Windows Based Desktops	763	1159	11290	2620	0	15832	
Windows Based Servers	1	369	391	29	116	906	
Windows Based Laptops w/remote access to network	161	23	934	747	0	1865	
Count by Type of Operating System							
Non-Windows Based Devices	NOVELL	UNIX	AIX	LINUX	SCO	Mac	Total
Non-windows Based Desktops	0	0	0	26	0	1	27
Non-windows Based Servers	45	45	35	87	18	5	235
Non-windows Based Laptops w/remote access to network	2	0	0	7	0	0	9

A review of the data above provides a view of the technology infrastructure within the State of Iowa. The state operates predominantly in a Windows based environment. Windows based devices comprise greater than 99% of the desktop computers, almost 80% of the servers and greater than 99% of the laptop computers within the EIP departments and agencies. Within the Non-Windows based environment, 44% of the devices run on the LINUX operating system. No other Non-Windows based operating system accounts for more than 17% of the total devices.



Approximately 13% of the Windows based devices are pre-2000 configuration equipment. However, greater than 80% of the Windows based devices are pre-2002/XP configuration. Such a predominant number of devices in the pre-2002/XP configuration indicate spending on technology infrastructure has not been adequate in the past. This situation puts the state at risk in a number of areas, primarily hardware obsolescence and security. Cost risk is also present because of the number of different configurations that need to be supported.

Installed Technology Base

The EIP departments reported on other characteristics of their technology infrastructure. Specifically, they provided information regarding the size, utilization and end-user support. The tables below provide the detail characteristics of the state's technology infrastructure for mainframe computing, mid-range computing and server/desktop computing.

MAINFRAME	
Installed MIPS	445
Used MIPS	373
Installed DASD (GB)	3,860
Average tape mounts per month	43,426
Average pages printed per month	4,700,748
Average production jobs per month	88,151
Total number of Terminals supported	6,871
Total number end users	36,348
MINI-COMPUTER (AS 400, SUN boxes, storage boxes)	
Installed MIPS	-
Used MIPS	-
Installed DASD (GB)	538
Average tape mounts per month	600
Average pages printed per month	42,000
Average production jobs per month	220
Total number of Terminals supported	17
Total number end users	105
WINDOWS BASED DESKTOPS/SERVERS	
Installed Intel Email Servers	45
Installed Server Processors	1,256
Installed Disk Storage (GB)	54,722
Total number end users	14,921
Total number of IMACs (install, move, add, change) per year	5,509
OTHER NON-WINDOWS BASED DESKTOPS/SERVERS	
Installed Unix/Linux Email Servers	2
Installed Server Processors	264
Installed Disk Storage (GB)	7,189
Total number end users	2,409
Total number of IMACs (install, move, add, change) per year	1,519



A review of the technology operational characteristics provides the following observations:

- Mainframe installed MIPS meets the required MIPS usage
- There are 47 different e-mail servers running 4 different e-mail systems
- 36 Exchange
- 7 Lotus
- 2 GroupWise
- 2 UNIX/Linux
- The IMAC (Install, Move, Add, Change) rate is 40% of the end user population annually
- The ratio of server processors to the number of servers is 1.3:1

A few conclusions can be drawn from the observations above. First, the statewide IT organization appears to be doing a good job of scaling installed MIPS to meet MIPS usage requirements. Secondly, the number of e-mail systems is an area for potential cost reduction. Coeur recommends that messaging is centralized across the state. Finally, increased server density and capacity sharing should be investigated to reduce the annual cost of ownership for this asset.

Outside Service Spending

Outside services includes technology-related activities purchased by departments and agencies from outside entities. These entities can be other State departments and agencies or private third party providers. The cost associated with private third part providers has already been addressed above in the Personnel Counts and Costs section. As stated above, departments and agencies reported spending \$27.1 million for services from third party providers to augment their internal staffs in a variety of technology areas.

Departments and agencies also reported spending \$20.1 million for services from other state agencies. The table below provides a summary of the technology services “purchased” from other state departments and agencies.

<i>IT Functional Area</i>	<i>ITE Cost (\$)</i>	<i>ICN Cost (\$)</i>	<i>Other Agency Cost (\$)</i>	<i>Total</i>
Desktops	\$ -	\$ -	\$ -	\$ -
Servers	\$ 240,382	\$ -	\$ -	\$ 240,382
Network	\$ 49,586	\$ 1,502,477	\$ 10,382	\$ 1,562,445
Data Center	\$ 17,819,482	\$ -	\$ -	\$ 17,819,482
Apps Dev & Maint	\$ 457,724	\$ -	\$ -	\$ 457,724
Plng & Admin	\$ 30,687	\$ 6,456	\$ -	\$ 37,143
Total	\$ 18,597,861	\$ 1,508,933	\$ 10,382	\$ 20,117,176

As shown above, two services represent the vast majority of the cost in this category. Data Center operations (88.6%) provided by the Information Technology Enterprise (ITE) and Network services (7.5%) provided by the



Iowa Communications Network (ICN) account for 96% of the services purchased from other state departments and agencies.

Occupancy Cost and Infrastructure Support

Occupancy and infrastructure costs reported by the EIP departments and agencies represent an insignificant portion of the statewide IT cost. Coeur believes this area is under-reported and additional cost associated with IT operations exists within the state. However, by their nature these costs are difficult to identify and segregate within budget or recorded cost data. These costs can be significant, especially when considering data center operations, networks and facilities to provide workspace for state employees engaged in performing IT-related tasks and activities.

Project Lists and Applications Inventory

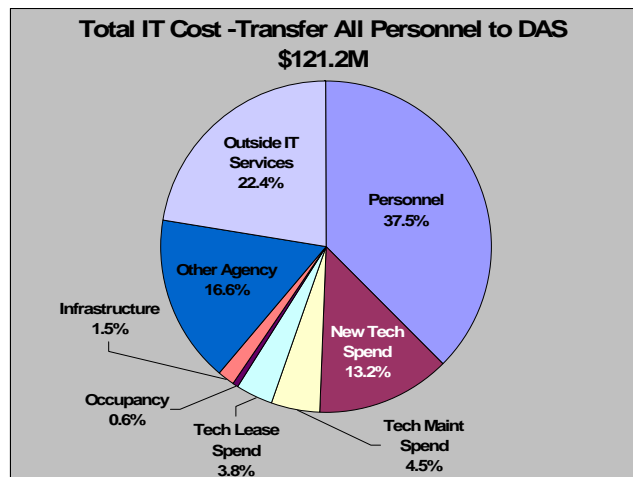
Some departments and agencies provided project and applications lists for Coeur to review.

Impact of Transferring All State Agency Employees Delivering IT Services to DAS

If the State were to transfer all employees and their associated technology hardware/devices into DAS, the department would expand from an organization expending approximately \$15.2 million to one spending \$121.2 million annually on IT. The only difference between this organization and the total Statewide IT organization from an IT expenditure standpoint is that it does not include the ICN IT costs, since ICN must remain a stand-alone entity to retain its “common carrier” status.

Total IT Spend

The total IT expenditure of this fully centralized organization is shown in the diagram below.





Personnel

Approximately 550 State employees would be transferred to the DAS organization to join the 116.5 FTEs currently in the ITE department. The new personnel count and cost for DAS is provided in the table below:

	Depts./Agencies		ITE		Total	
	FTEs	Cost \$ (M)	FTEs	Cost \$ (M)	FTEs	Cost \$ (M)
Desktops	92.25	\$5.87	8	\$0.60	100.25	\$6.47
Network	45.5	\$2.78	14	\$0.70	59.5	\$3.48
Servers	37.25	\$3.45	7.5	\$1.30	44.75	\$4.75
Data Center	58.25	\$3.89	41.5	\$2.91	99.75	\$6.80
Apps Devel & Maint	235.75	\$16.17	27	\$2.19	262.75	\$18.37
Plng & Admin	80.75	\$6.44	18.5	\$1.80	99.25	\$8.25
Total	549.75	\$38.61	116.5	\$9.51	666.25	\$48.12

Total Labor Cost

Since the state uses a combined approach of State employees augmented with Outside IT Service to deliver IT services to the departments and agencies, the new DAS organization would experience total labor costs shown in the table below. DAS IT labor would grow by \$65.72 million to a new total labor cost of \$75.22 million.

	Depts./Agencies	ITE	Outside IT Services	Total
Desktops	\$5.87	\$0.60	\$5.78	\$12.25
Network	\$2.78	\$0.70	\$0.61	\$4.09
Servers	\$3.45	\$1.30	\$0.23	\$4.98
Data Center	\$3.89	\$2.91	\$0.69	\$7.49
Apps Devel & Maint	\$16.17	\$2.19	\$19.11	\$37.48
Plng & Admin	\$6.44	\$1.80	\$0.69	\$8.93
Total	\$38.61	\$9.51	\$27.11	\$75.22

Technology Spending

Technology spending would also grow in the new DAS organization, since all IT procurement would be performed from a centralized organization under this situation. The following table provides details of the new IT procurement cost for DAS, which grow to \$28.02 million.

FY 2003 Inventory and Non-inventory IT Expenditures	Total Cost (\$)	Purchased			Leased	
		Hardware	Software	Maintenance	Hardware	Software
Mainframe Equip/Channel-attached printers/SW/Maint	\$ 4,546,631	\$ 359,952	\$ 8,800	\$ 1,796,286	\$ 751,052	\$ 1,630,541
Mid-Range Equip/SW/Maint	\$ 913,572	\$ 327,917	\$ 321,417	\$ 264,238	\$ -	\$ -
Desktop/Laptop Equip/Local-network printers/SW/Maint	\$ 10,300,641	\$ 5,900,434	\$ 2,302,852	\$ 1,265,587	\$ 575,086	\$ 256,682
Servers/Peripheral Equip/SW/Maint	\$ 7,207,776	\$ 2,670,042	\$ 2,379,111	\$ 1,099,734	\$ 250,989	\$ 807,900
Network Equip/SW/Maint	\$ 2,289,805	\$ 764,877	\$ 204,836	\$ 995,509	\$ 298,152	\$ 26,431
Miscellaneous IT Equip/supplies/parts	\$ 759,337	\$ 730,769	\$ -	\$ 28,568	\$ -	\$ -
TOTAL	\$ 26,017,762	\$ 10,753,992	\$ 5,217,016	\$ 5,449,922	\$ 1,875,279	\$ 2,721,554



Technology Devices

DAS would become responsible for management of all the hardware and devices associated with the personnel transferring into the department. The current number of devices within DAS is shown in the tables below:

	Count by Type of Operating System					Total
	Pre-NT	NT	2000	2002/XP	2003	
Windows Based Desktops	50	50	800	100	0	1000
Windows Based Servers	0	26	48	1	17	92
Windows Based Laptops w/remote access to network	20	15	25	25	0	85

	Count by Type of Operating System					Total
	NOVELL	UNIX	AIX	LINUX	SCO	
Non-windows Based Desktops	0	0	0	7	0	8
Non-windows Based Servers	0	0	31	60	18	114
Non-windows Based Laptops w/remote access to network	0	0	0	5	0	5

After transfer of all the personnel and their associated devices, DAS would now be responsible for management of the total devices provided in the tables below:

Windows Based Devices		Count by Type of Operating System					Total
		Pre-NT	NT	2000	2002/XP	2003	
Windows Based Desktops		763	1159	11175	2563	0	15660
Windows Based Servers		1	369	378	29	113	890
Windows Based Laptops w/remote access to network		161	23	934	747	0	1865

Non-Windows Based Devices		Count by Type of Operating System					Total
		NOVELL	UNIX	AIX	LINUX	SCO	
Non-windows Based Desktops		0	0	0	26	0	27
Non-windows Based Servers		45	40	35	87	18	230
Non-windows Based Laptops w/remote access to n		2	0	0	7	0	9

The discussion above related to transfer of all IT personnel to DAS is based upon the FY 2003 cost and infrastructure information provided by the departments and agencies via the EIP Assessment workbooks.

Centralization Pros

Leadership

- Executive level committees with a statewide focus
- Total focus on departmental and a statewide strategy
- Highly focused on Department core mission and innovative utilization of technology
- Develop a leadership culture versus an entitlement culture
- Change the culture from entitlement to entrepreneurial
- Develop a new leadership management team
- Deploy a new performance management plan

Architecture & Infrastructure

- A common statewide architecture and technology standards
- Substantially integrated statewide infrastructure
- Cost savings from common infrastructure management
- Cost reductions from centralized management of networks



- Software cost reductions from consolidation
- Maximizes commonality

Human Capital Management

- Increased leadership skill sets developing business disciplines within IT
- Deploy new training and development plans
- Better opportunity for workforce skill improvements
- Provides flexible resource utilization capability
- Leverages scarce talent

Vendor Management

- Improved vendor leverage from direct vendor management
- Cost savings with procurement and vendor management programs
- Focused vendor management and partnering strategies

Communication

- Develop a close relationship between IT executives and department executives
- Sharing of information across departments and agencies
- Direct reporting relationships facilitate improved communication
- More emphasis on knowledge transfer

Business Processes

- Centralized budgeting process and technology spend plan management
- Improved management of the funding processes
- Significantly improved and well-developed business and decision processes
- Centralized reporting of operations and service delivery measures
- E-Business focus

Customer Relationship Management

- Develops “account” capability

Centralization Cons

Human Capital Management

- Highly negative impact on work force morale
- Significant costs for relocation of work force
- Significant effort and of time to integrate the work force
- Decreases innovation and development of a learning organization
- Strategic work content is low decreasing learning and improvement for the work force
- Higher dispute rates prevalent in a centralized work force
- Personnel are typically more reactive than proactive
- Does not maximize workforce skills



- Resistant to change

Customer Relationship Management

- Functions within centralized IT operate autonomously and minimize cross organizational interfaces
- IT functions work to create relationships that support specific user organizations and functions only
- More difficult to develop high levels of customer relationship management
- Decreased flexibility to provide departments with changing requirements
- Decreases individual ownership in relationships to department business
- Data and information sharing it is not always fully implemented
- Little user involvement with the IT organization beyond the initial request until product delivery
- Reduces capability of application development for appropriate business solutions
- Longer development lead times

Business Processes

- Significant effort must be put toward development of clear guidelines and policies
- Best practices are usually limited but not fully employed
- Standard work practices are different across centralized functions
- More difficult to develop process-centric capabilities
- Transformation readiness and flexibility are decreased
- Rapid decision making is decreased

Leadership

- The organization is typically hierarchical in command and control
- Policies are dictated and typically rigidly enforced
- Policies and processes avoid risks
- The IT organization is treated as the keeper of technology and called upon by the business when needed
- IT continues to be managed as a cost versus a value Center
- Difficult to implement centralized organization

Architecture & Infrastructure

- Infrastructure and legacy systems typically are not developed for an adaptive environment
- Architecture plans are conceptual and usually focused on technical architecture

Sourcing Strategy

- Tend to build everything internal vs. develop an effective sourcing strategy

Scenario Comparisons

The baseline IT costs for the Scenario cost impacts is based upon a derived three year average for FYs 2002, 2003 and 2004 instead of a single point FY



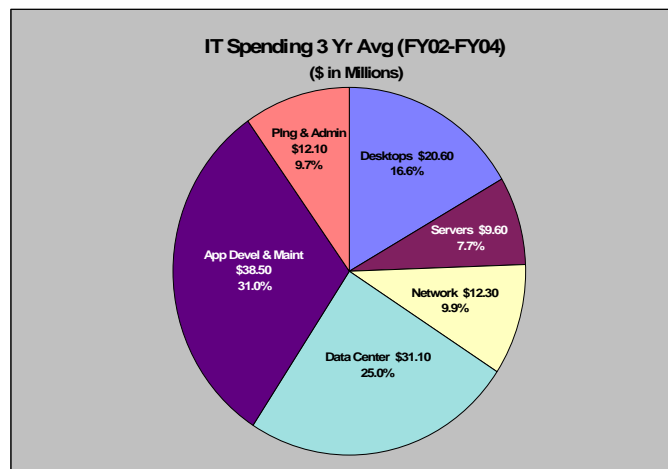
2003 value. The IT costs for State FTE labor and vendor technology spending are based on FY02 - FY04 data provided by DAS from the State accounting records. Occupancy, Infrastructure, ITE, ICN, Other Agency and Outside IT Services costs are based upon the FY 2003 data reported by the departments and agencies. The table below provides a summary of the total IT spend based upon the approach for calculating cost described above.

Desktops		Servers		Network		Data Center		App Devel & Maint		Ping & Admin		Total Spending	
Cost		Cost		Cost		Cost		Cost		Cost		Cost	
Hardware	\$ 5.00	Hardware	\$ 1.00	Hardware	\$ 1.40	Mainframes	\$ 0.90	Hardware	\$ 37.70	Hardware	\$ 1.40	Hardware	\$ 9.70
Software	\$ 2.50	Apps	\$ 1.40	Software	\$ 1.70	Software	\$ 3.00	Software		Software	\$ 0.60	Software	\$ 9.20
FTEs	\$ 12.20	FTEs	\$ 5.10	FTEs	\$ 4.10	FTE	\$ 7.70	FTE		FTE	\$ 9.00	FTE	\$ 75.80
Maintenance	\$ 0.80	Maintenance	\$ 0.50	Maintenance	\$ 2.40	Maintenance	\$ 1.30	Maintenance		Maintenance	\$ 0.60	Maintenance	\$ 5.60
Occupancy	\$ 0.10	Occupancy	\$ 0.10	Occupancy		Occupancy	\$ 0.10	Occupancy	\$ 0.30	Occupancy	\$ 0.10	Occupancy	\$ 0.70
Infrastructure		Infrastructure		Infrastructure	\$ 1.20	Infrastructure	\$ 0.30	Infrastructure		Infrastructure	\$ 0.40	Infrastructure	\$ 1.90
ITE		ITE	\$ 0.20	ITE		ITE	\$ 17.80	ITE	\$ 0.50	ITE		ITE	\$ 18.50
ICN		ICN		ICN	\$ 1.50	ICN		ICN		ICN		ICN	\$ 1.50
		e-Mail	\$ 1.30									e-Mail	\$ 1.30
	\$ 20.60		\$ 9.60		\$ 12.30		\$ 31.10		\$ 38.50		\$ 12.10		\$ 124.20

The following diagram depicts the IT operational areas as percent of the average IT spend. This provides a view of the relative contribution of each area to the total level of spending over the past three fiscal years.

Coeur Group has recommended several programs that will support consolidation and transition of the statewide IT organization. The impact of these programs will vary depending upon the scenario adopted. The programs, defined previously in this report, are restated below.

- Hardware Lifecycle Program
- Leverage Common Statewide Infrastructure
- Data Center Consolidation—facilities, servers, midrange equipment, etc.
- Application Inventory and Consolidation



The estimated savings resulting from implementation of each of these programs is described by area of IT operations in the following sections of this report.



Desktops

Savings

Implementation of Hardware Lifecycle Program, as part of an overall Vendor Management Strategy, will result in lower annual costs for procurement of desktop/laptop hardware and software. Coeur Group estimates an annual savings of \$800,000 on a current base cost of \$7.5 million. Savings will be generated as a result of a centralized hardware Lifecycle and Vendor management programs. In addition to the procurement savings, the state will be able to reduce the labor cost associated with help desk and maintenance due to a reduction in the number of different hardware and software configurations in the field to support. Based upon the experience of other clients that have implemented similar programs, Coeur Group estimates the labor savings to be approximately 10% of the current labor cost associated with desktop maintenance and support of \$12.25 million. The current base costs includes \$6.47 million of state FTE labor cost and \$5.78 million of Outside IT Services cost.

The cost reduction impact for the Centralized and Service Provider scenarios will be similar since each recommends centralized control of the IT procurement function. The structure of the Federated model will dilute control the IT procurement function. Therefore, Coeur Group estimates that the Federated model will only generate 60% of the estimated savings.

Total desktop savings is estimated at \$2.02 million for the Centralized and Service Provider scenarios. Total desktop savings is estimated at \$1.21 million for the Federated scenario.

Investment

In order to realize the savings as described above, a Vendor Management program needs to be developed and utilized by the statewide IT organization. A key component of the program will be the Lifecycle Program that will refresh a planned number of desktop and laptop devices on an annual basis. This will ensure an up-to-date hardware configuration, reduce the number of different configurations requiring support and leverage purchases across the vendor base. Coeur Group's estimate for the state to implement a Vendor Management Program, based upon its own experience in development of similar programs with clients of equivalent size and organizational complexity, is \$1.2 million for the Service Provider scenario. Coeur estimates cultural resistance under the Centralized scenario will result in a 25% additional impact raising the cost to \$1.5 million and the de-centralized nature of the Federated scenario would cause a longer implementation effort resulting in a 50% additional impact raising the cost to \$1.5 million.



Servers

Savings

Implementation of a Hardware Lifecycle Program will have similar effects on the annual cost associated with procurement, maintenance and support of server hardware and software. Coeur Group estimates an annual procurement savings of \$158,000 on a current base cost of \$2.40 million. Savings will be generated as a result of a server consolidation effort and vendor management program.

Again, a labor saving of approximately 10% will also result from the reduction in requirements to support and maintain multiple server configurations. The current base labor cost of \$5.13 million includes \$4.90 million of State FTE labor cost and \$0.23 million of Outside IT Services cost.

Coeur Group also recommends a consolidation of the e-mail and messaging across the EIP departments and agencies. Coeur estimates a savings of \$266,000 on a base e-mail license cost of \$1.27 million. The table below provides the calculation of the estimated savings.

Current	Server	License	Client Access	License	Total License Cost (\$)
Exchange	36	\$ 699	9,018	\$ 67	\$ 629,370
Lotus	7	\$ 2,964	5,093	\$ 101	\$ 535,141
Groupwise	2	\$ -	810	\$ 130	\$ 105,300
Unix/Linux	2	\$ -	0	\$ -	\$ -
Total Current	47		14,921		\$ 1,269,811
Revised					
Exchange	1	\$ 3,999	14,921	\$ 67	\$ 1,003,706
Savings					\$ 266,105

The cost reduction impact for the Centralized and Service Provider scenarios will be similar since each recommends centralized control of the IT procurement function. The structure of the Federated model will dilute control the IT procurement function. Therefore, Coeur Group estimates that the Federated model will only generate 40% of the estimated savings.

Total server savings is estimated at \$0.97 million for the Centralized and Service Provider scenarios. Total server savings is estimated at \$0.39 million for the Federated scenario.

Investment

Server savings are dependent upon two programs. The State will need to conduct a study to re-architect and optimize the distribution, utilization and connectivity of the entire server population located within various facilities



across the departments and agencies. Based upon Coeur Group's experience, the estimated cost for this effort is approximately \$200,000. The second program focuses on the procurement of server hardware. Similar to the Desktop Lifecycle Program, the procurement of server hardware occurs on a planned basis. Benefits of this program will be similar to those described in the Desktop Lifecycle Program above. Estimated incremental costs to include server hardware in an overall lifecycle program are \$375,000 for the Service Provider and Federated scenarios. The Centralized scenario will require an additional 25% effort, raising the implementation cost to \$469,000.

Network

Savings

Network operations will benefit from an initiative to leverage the common statewide technology infrastructure. The primary focus of this program is to more fully utilize the Iowa Communications Network (ICN) to transmit voice, video and data between the departments and agencies and their constituents, partners and stakeholders throughout the state. This would reduce or eliminate the dependence and the cost associated with similar services provided by private third parties. Coeur Group estimates a hardware procurement savings of 5%, maintenance contract procurement savings of 16.5% and a labor cost savings of 50%. The hardware procurement savings will result from eliminating any unique hardware buys required by third party providers. The maintenance contract savings will result from consolidating and leveraging the various third party provider contracts. Labor costs will be reduced as a result of centralized network management into a Network Operations Center (NOC).

Coeur Group estimates a savings of \$70,000 (5%) on a hardware procurement base of \$1.40 million. Maintenance contract savings are estimated at \$396,000 (16.5%) on a base of \$2.40 million. Labor savings are estimated at \$2.05 million (50%) on a base of \$4.09 million that includes a base State FTE labor content of \$3.48 million and a base Outside IT Services content of \$0.61 million.

The cost reduction impact for the Centralized and Service Provider scenarios will be similar since each recommends centralized control of Statewide IT network operations. The structure of the Federated model will leave department and agency networks under their control. Distributed control of the IT networks under the Federated model makes it difficult to predict the level of savings, if any, associated with this scenario. Therefore, Coeur Group does not estimate any savings associated with network operations under the Federated scenario.

Total Network savings is estimated at \$2.52 million for the Centralized and Service Provider scenarios.



Investment

Network savings are also dependent upon two programs. The state will need to conduct a study to re-architect and optimize the distribution, utilization and connectivity of the statewide network infrastructure. Based upon Coeur Group's experience, the estimated cost for this effort is approximately \$300,000. The second program focuses on the procurement of network hardware and private third party services. Estimated incremental costs to include network hardware and service providers in the overall Vendor Management Program are \$100,000. The Centralized scenario will require an additional 25% effort for both programs, raising the implementation cost to \$375,000 and \$125,000 respectively.

Total implementation cost is estimated at \$400,000 for the Service Provider scenario and \$500,000 for the Centralized scenario. Due to the diluted control of network management under the Federated scenario, Coeur Group does not anticipate the state will benefit from these programs. Therefore, no initiatives are recommended for implementation under the Federated scenario.

Data Centers

Savings

Coeur Group recommends that the ITE Data Center operations and the Iowa Workforce Development (IWD) Data Center operations be consolidated into the Joint Forces Headquarters facility at Camp Dodge. The Data Center consolidation recommendation also identifies the Dept. of Transportation Data Center in Ames as the back-up facility for disaster recover and business continuity. The ITE and IWD Data Centers would be limited to file and print operations. Consolidation of these operations will result in significant savings. Coeur estimates a 33% reduction in software, maintenance and facility costs. This reduction results in a software procurement savings of \$990,000 from the current base of \$3.00 million, a maintenance procurement savings of \$430,000 from a current base of \$1.30 million and a facility expense savings of \$100,000 on a current base of \$0.30 million. In addition to the procurement and facility expense savings, Coeur estimates the labor savings will be 20% of the current Data Center operations labor cost. This reduction will result in a savings of \$1.54 million for the current base cost of \$7.74 million. The current base labor cost to operate the Data Centers includes \$7.05 million for State FTEs and \$0.69 million for Outside IT Services.

The Data Center consolidation is independent of the three (3) organizational scenarios and would be unaffected by the scenario adopted by the State of Iowa. Therefore, the total Data Center savings of \$3.06 million would be equal for any of the scenarios.

Investment



Coeur Group has recommended the ITE and IWD data centers be consolidated in the Joint Forces Headquarters at Fort Dodge. This effort will require a build-out of the existing facilities at that location. A previous estimate developed by the State indicates the cost of the build-out is \$3.8 million. Coeur Group believes that this is a reasonable cost estimate for this effort. In addition to the build-out, Coeur Group recommends the state contract with an experienced consultant to manage the architecture, layout and construction of the data center facility. It is estimated this effort will cost an additional \$1.5 million over the course of the build-out timeframe. Total build-out cost is estimated at \$5.3 million regardless of which scenario the state chooses.

Application Development & Maintenance

Savings

As indicated in the diagrams above, Application Development and Maintenance (AD&M) represents the largest area of IT operations. AD&M accounts for almost 40% of the State FTEs and just over 30% of the total IT spending. The departments and agencies reported nearly 1600 applications. Coeur Group recommends a detailed applications inventory project to determine the true number of applications being used by the EIP departments and identify those that are no longer necessary, those that can be consolidated and any new development projects that can be terminated or combined. Coeur Group believes significant savings can be realized through implementation of an application inventory and reduction program. Based on the experience of other clients, Coeur Group believes the state can realize labor cost savings equal to 33% of the current State FTE labor cost. The current base labor cost of \$37.7 million consists of \$18.60 million State FTE labor cost and \$19.11 million of Outside IT Services cost. This reduction will result in a savings of \$6.03 million on the current State FTE base labor cost of \$18.60 million.

The cost reduction impact for the Centralized and Service Provider scenarios will be similar since each recommends centralized control of the AD&M function. The structure of the Federated model will dilute control the AD&M function. Therefore, Coeur Group estimates that the Federated model will only generate 50% of the estimated savings.

Total AD&M savings is estimated at \$6.03 million for the Centralized and Service Provider scenarios. Total AD&M savings is estimated at \$3.02 million for the Federated scenario.

Investment

Savings in this area are dependent upon a functioning Enterprise Portfolio Management Organization (EPfMO) and Program Management Office (PMO) within the Statewide IT organization. These bodies will ensure the appropriate applications are being developed, eliminate duplication of development



Chapter 9
Financial Findings
and Impacts

projects and provide the disciplined project management structures and processes to keep projects within budget and delivered on schedule. Estimated costs for developing these bodies and their associated processes are estimated at \$625,000 for the Service Provider scenario, \$780,000 for the Centralized scenario and \$500,000 for the Federated scenario.

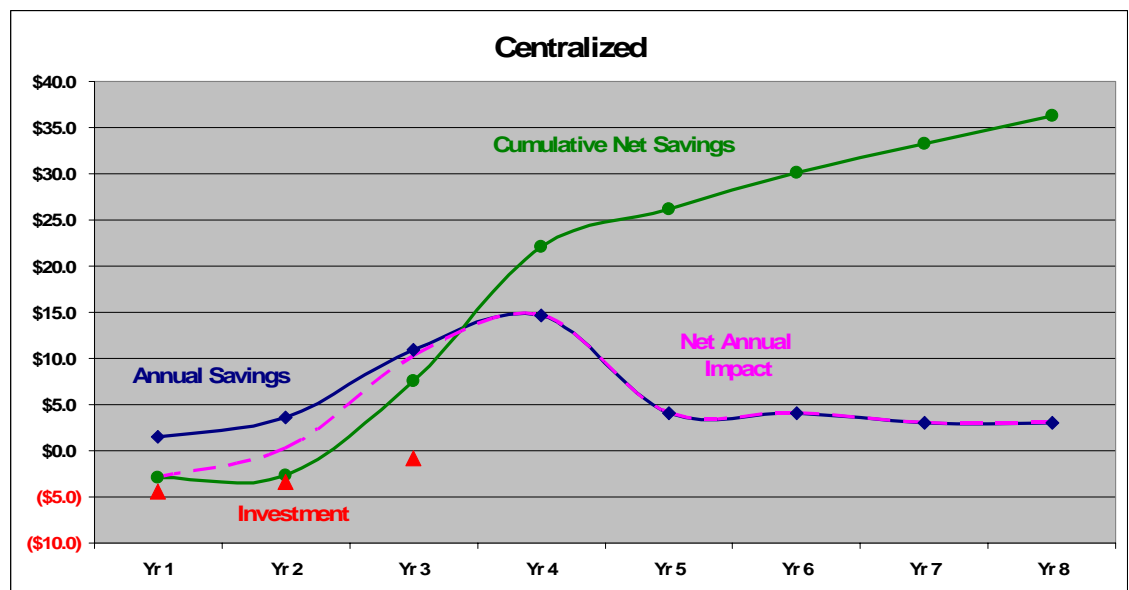
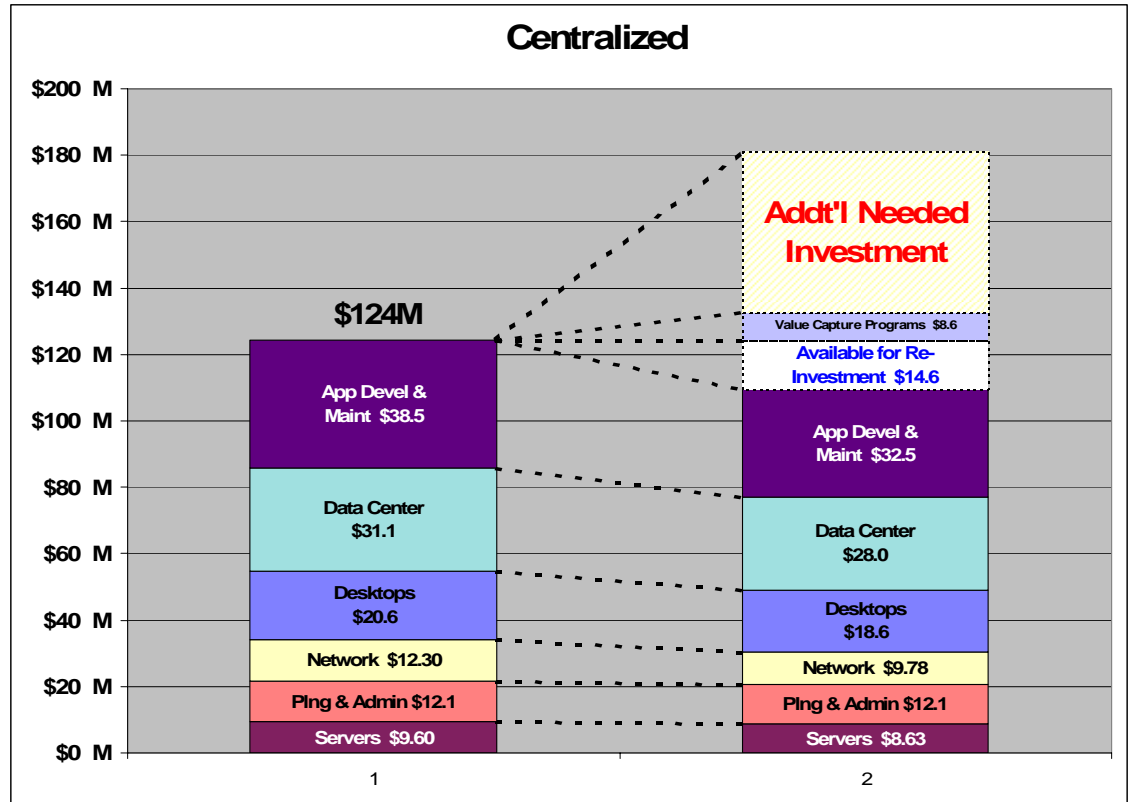




Savings Summaries

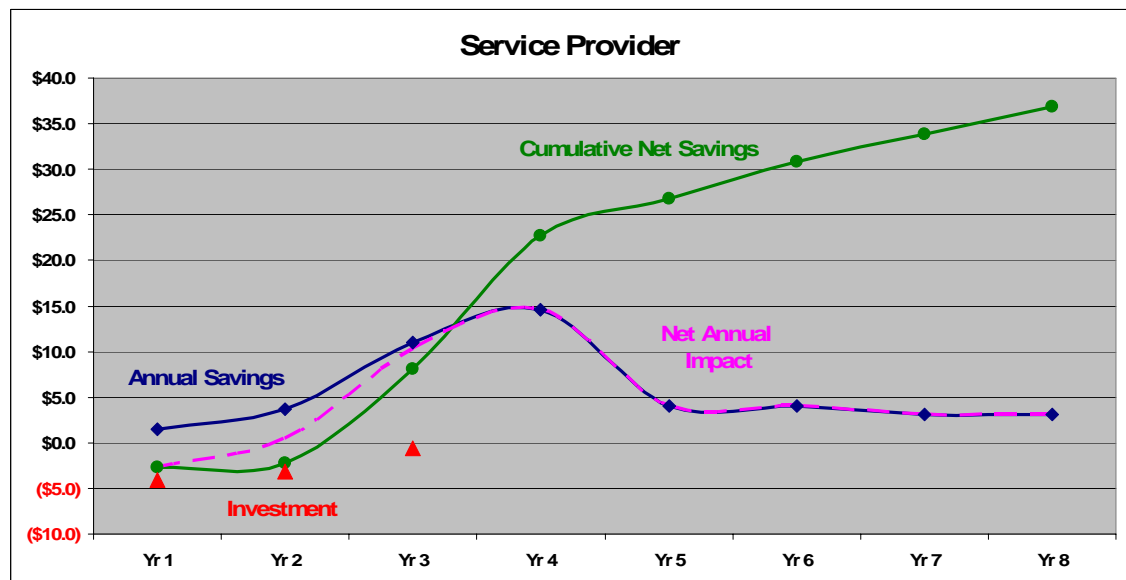
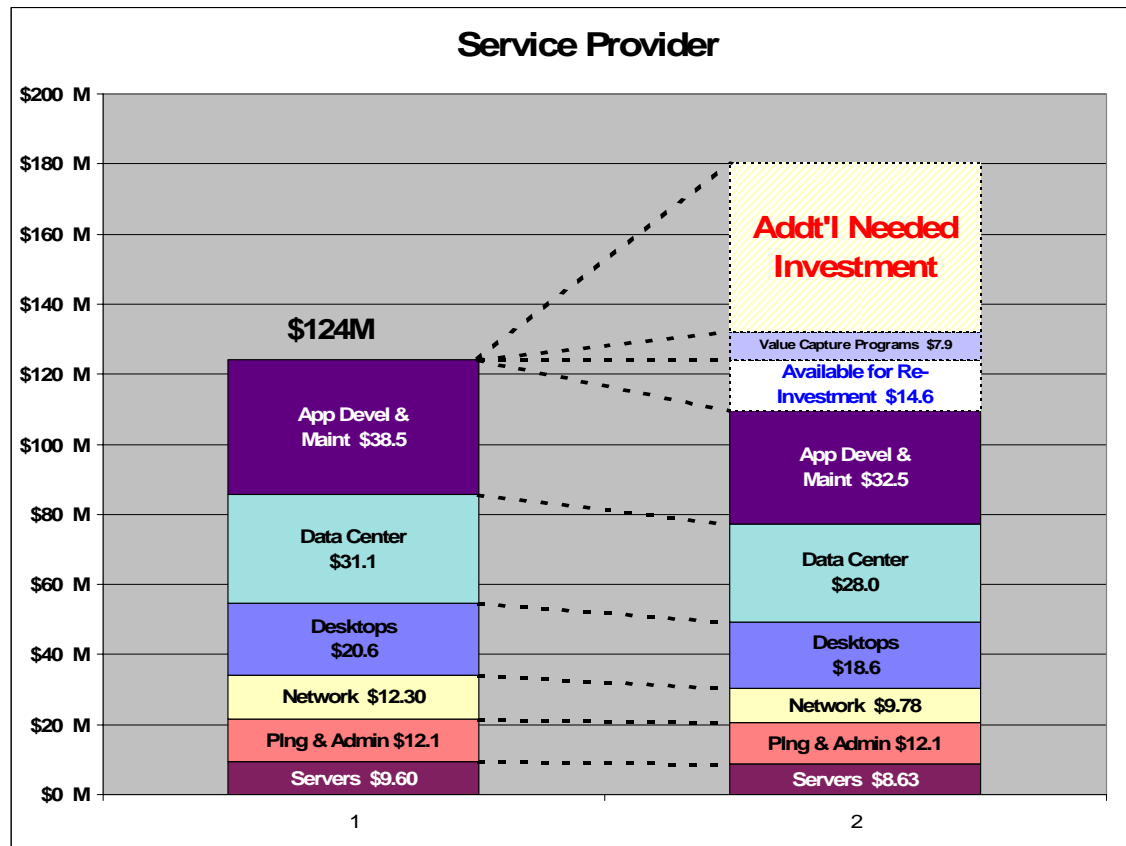
The cumulative impact of the program savings is provided in the charts and diagrams below. A chart and diagram is provided for each of the scenarios.

Centralized Scenario





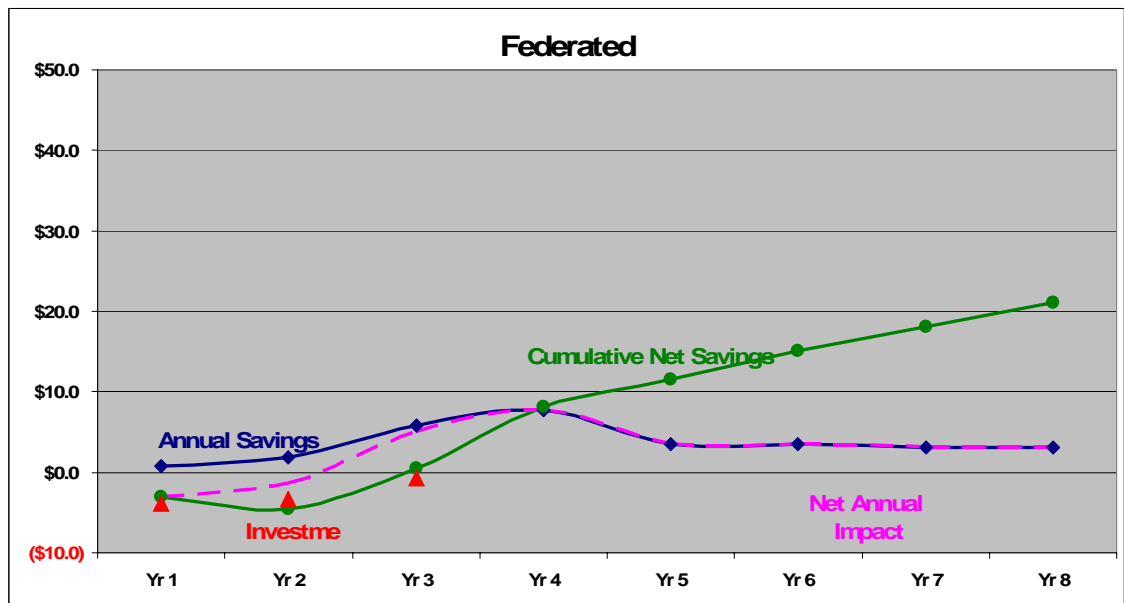
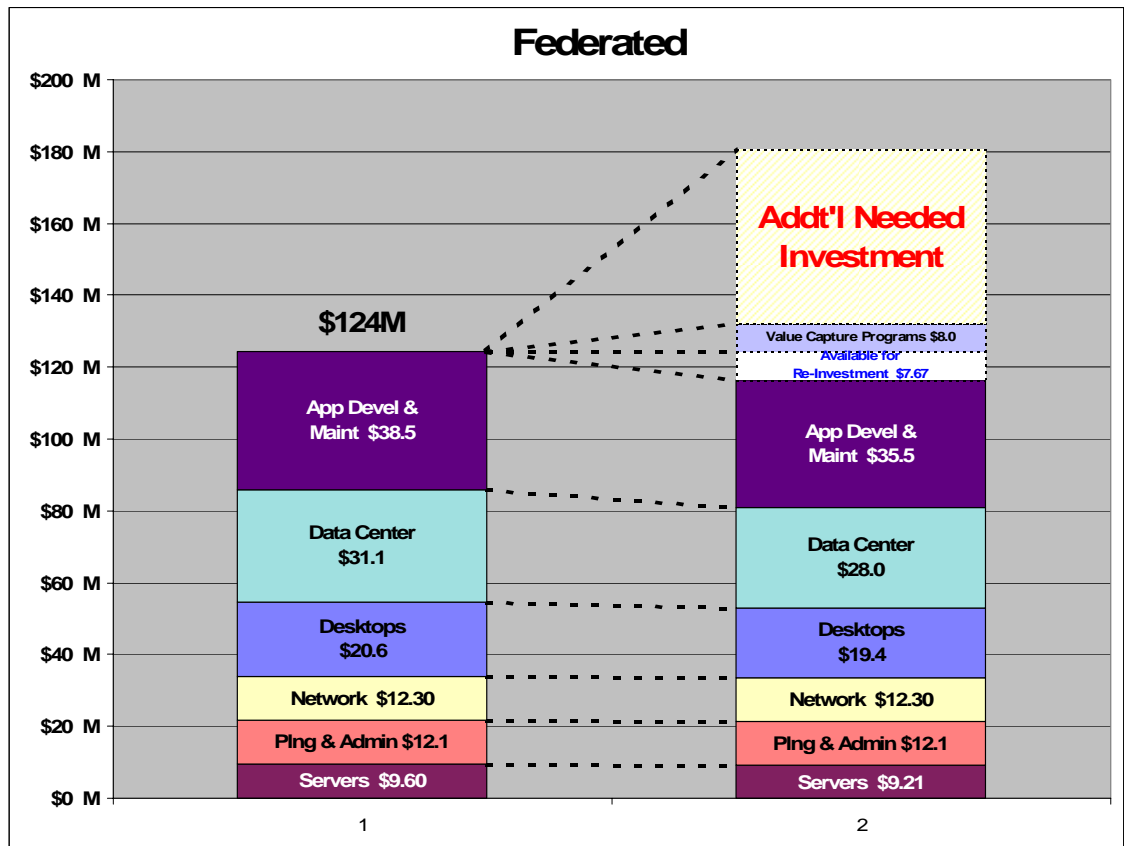
Service Provider Scenario





Chapter 9
Financial Findings
and Impacts

Federated Scenario





The table below provides a comparison summary of the savings, investment and return for each of the scenarios.

	Centralized	Service Provider	Federated
5 Year Savings			
Desktops	\$4.2	\$4.2	\$2.5
Servers	3.0	3.0	1.2
Network	5.3	5.3	0.0
Data Center	9.5	9.5	9.5
Apps Dev & Maint	12.7	12.7	6.3
Plng & Admin	0.0	0.0	0.0
Total Savings	\$34.7	\$34.7	\$19.6
Investments			
Vendor Mgt/Life Cycle Pgm (Desktops)	(\$1.5)	(\$1.2)	(\$1.8)
New Architecture Study (Servers)	(0.3)	(0.2)	(0.2)
Vendor Mgt Pgm (Servers)	(0.2)	(0.2)	(0.2)
EPfMO Development (Apps Devel & Maint)	(0.8)	(0.6)	(0.5)
Architecture Redesign (Network)	(0.4)	(0.3)	0.0
Vendor Mgt Pgm (Network)	(0.1)	(0.1)	0.0
Build-out (Data Center)	(3.8)	(3.8)	(3.8)
Consulting (Data Center)	(1.5)	(1.5)	(1.5)
Total Investment	(\$8.6)	(\$7.9)	(\$8.0)
Net 5 Year Savings	\$26.1	\$26.8	\$11.6
Return on Investment	306%	339%	145%

Process Changes

Organization & Funding

Initially, the state will need to create and fund the Office of the CIO, consisting of the Statewide CIO, Chief Technology Officer (CTO), Enterprise level CIOs and the Chief Information Security Officer (CISO). Funding for the Enterprise level CIO positions currently exists within the state budget in the form of Large-Department CIO salaries and benefits. These resources will be transferred to the new organization. Funding for the CISO also currently exists within the DAS budget. New funding may be required for the Statewide CIO and the CTO. Enterprise Administrative Services will also be performed within the Office of the CIO organization. Funding for these activities currently exists within the DAS budget as well.

Process Impacts

Technology Architecture and Governance Boards and processes will need to be developed and implemented by the Office of the CIO for creating standards and providing the strategic direction of the statewide Information Technology organization.



Architecture – An Architecture Review Committee will be established to ensure that all technology projects, and the technology portions of non-technology projects, meet certain requirements and conform to standards established by the committee. This process will ensure a common, standard approach to deploying technology across the State. All projects will be reviewed by the Committee for compliance with standards. Those projects that do not comply with standards will require revision to bring them into compliance.

Governance - A governance framework model that is consistent with the state's operating style will be established. This framework ensures that portfolio decisions are continually aligned with the state's strategic plan. The process is tailored to the state's organization, identifying the key skills that are needed to perform portfolio management, determining whether they represent additional tasks for existing roles or merit the creation of new positions. It also defines the rules about what a particular individual can do to the portfolio (or one of its parts) and who needs to be involved in the approval of changes to the portfolio and the management process.

This creates governance processes that permit the flow of regular program status to the interested constituencies and that permits collaborative decision-making. By design, this integrates the governance process with other critical processes (e.g., System Development Life-Cycle) to ensure that appropriate guidance and compliance checking is added to those processes.

To create the governance framework the following steps should be completed:

- Requirements-gathering workshops with key executives, program stakeholders, core project team, and subject matter experts.
- Assess existing management processes and develop a strategy for integrating program office processes with them.
- Discuss existing enterprise-level program management functions and their required integration/touch points.
- Conduct a situation and maturity assessment of existing lifecycle processes.
- Define Enterprise Program Management Office roles & responsibilities.
- Document the governance process.

An Enterprise Investment Governance Board will review all technology investments, both mandatory and discretionary. Mandatory projects are defined as those projects which must be implemented to ensure basic operation of the state's technology infrastructure, or are required by State and Federal program mandates. The Governance Board will not have the authority to approve/reject projects mandated by State and Federal programs. However, these projects will still be managed through the EPfMOs Program Management Office (PMO) for implementation.



Enterprise Portfolio Management

A comprehensive Enterprise Portfolio Management Program should also be established. Enterprise Portfolio Management provides the State with a methodology to define, select, prioritize, measure and recognize value from technology and business investments. This program will be managed by the Enterprise Portfolio Management Organization (EPfMO). Portfolio management allows control of technology and business investment projects to ensure the delivery of meaningful value to the State. Portfolio management takes a holistic view of the State's overall technology and business investment strategy. Within this framework, IT and Department leaders examine and evaluate project proposals to ensure that they are aligned with the State's strategic objectives. The portfolio is constantly monitored to assess which projects are on track, which need help and which should be shut down. A strong Portfolio Management program can provide the following benefits:

- Maximize value of IT investments while minimizing the risk.
- Improve communication and alignment between IS and department business leaders.
- Encourage department business leaders to think "team," not "me," and to take responsibility for projects.
- Allow planners to schedule resources more efficiently.
- Reduce the number of redundant projects and make it easier to kill projects.
- Ensure accountability and alignment between the IT organization and the needs of the State.

Flexibility

The processes described above will be flexible enough to allow for unique requirements associated with network operations, database management, security, applications development, asset management, etc., that are mandated by the various entities funding department operations. The processes will accommodate mandatory requirements as long as they are established in accordance with standards developed by the Architecture Review Committee. Unique requirements will have to be reviewed for compliance with statewide architecture standards. Conflicts between program funding requirements and architecture standards will be jointly resolved between the department and the Architecture Review Board.

Accountability

Federally funded Projects and Programs that are run by the departments must have the ability to clearly identify resources and assets that are used to execute program/project activities, including transparent cost accounting for services provided outside the department. While the departments may not have ownership or direct control of all the resources used to execute program



activities, it is essential that they have the ability to account for all costs and that an audit trail exists that clearly identifies the source of the costs. Federal programs and projects that require all assets and resources used to execute activities be under direct control of the department managing the program can be accommodated within these new process designs. However, IT assets brought into the statewide IT infrastructure will have to meet standards established by the Architecture Review Board. IT resources will have to perform in accordance with established processes and procedures and all projects will be managed through the PMO.

Budgeting

Initially, the budgeting process will be largely unaffected and resources will remain within the departmental budgets. However, budgets will be established and funding sources identified for all projects before they will be allowed to proceed with development and implementation. The project budgets will be tracked by the EPfMO. Resource allocation and utilization will be monitored and reported to the department directors. Critical aspects of project performance (cost, schedule, customer satisfaction, etc.) will be measured and monitored throughout the project's development and implementation.

The future state contains all of the elements of the "next state" with the addition of changes focused primarily on the budget process. The future state budgeting process is based upon matching requirements with resources to satisfy the department's business needs. The first step in this process is to perform a comprehensive skills inventory of all the individuals performing technology operations within the state. This effort, performed by the Enterprise Administrative Services group, will streamline and simplify the process of matching requirements with skill resources.

Business Plans

The departments will prepare and submit business plans that identify the activities and resources necessary to accomplish the business requirements for the upcoming fiscal year. The plan will include the ongoing, normal course-of-business activities as well as projects that will continue or commence within the business plan fiscal year. The project list will be prepared with the assistance of the Client Relationship Manager (CRM) for each department. The CRMs will develop business cases for each project for submittal and review to the EPfMO. Business cases will include estimated project resources and costs. CRMs will also identify resources available within the department that have the appropriate skills to perform the required project tasks. They will also define those resources/skills that are necessary from outside the department to complete the skill staffing required for the project. All projects, including business cases, will be submitted to the EPfMO for resource allocation review and adjustment. The EPfMO will review the business cases to ensure all required elements are addressed and validate accuracy of resource



estimates. During this process, surplus resources within the statewide IT organization will be assigned to projects requiring additional resources based upon the project skill needs. If total resources with the requisite skill sets for all approved projects are not available within the statewide IT organization, the EPfMO will have the responsibility and accountability to procure the necessary resources from private third party providers.

Budgeting Process

Departments will retain “ownership” of all resources. Department budgets should include total project costs. Budgets should identify resources that will be utilized to perform the normal department operational activities, those that are assigned to projects and surplus resources or resource needs from outside the department. Departments will be reimbursed for surplus resources that are assigned to other department projects and will be charged for those resources required from outside the department to fulfill project requirements. The EPfMO will establish the necessary chargeback mechanisms for this process.

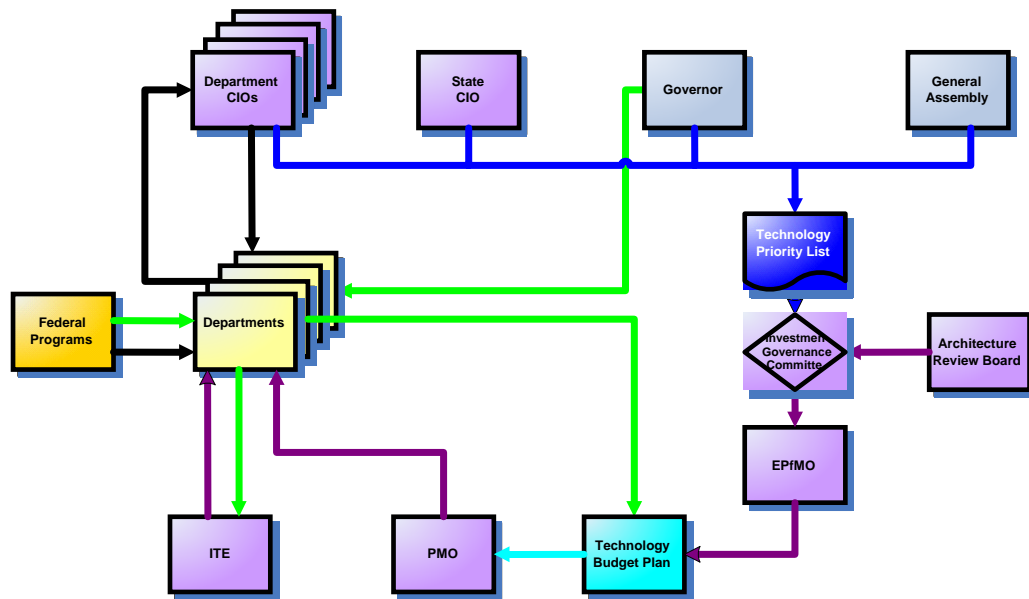
Resource Utilization

A scorecard will be developed by the EPfMO and provided to the department Directors and CIOs that measures and reports the utilization of resources across the statewide IT organization. This tool will facilitate effective resource management within the departments. Department Directors will have visibility into the current and projected utilization of their resources against projects for their department, projects for other departments and those resources that are not fully utilized.

Funding Process

In general, the funding process for each scenario is very similar. The primary difference is in the degree of resource transfer from the departments and agencies to the statewide IT organization. The specific degree of resource transfer will have to be determined by the State based upon the scenario adopted and the impact of funding entity mandates with respect to control and accountability of resources. Whichever scenario is adopted the funding process will be based upon a variation of the diagram provided below.





IT Economy

Iowa's Information Technology Economy:

This assessment compared Iowa's Information Technology components to World Wide Benchmarks as well as peer group states and has found a significant deficit in investments in the current Information Technology infrastructure of approximately 30% less than comparable entities. It is **highly recommended** that any cost savings generated from process and/or organizational consolidation impacts remain captive in the "Information Technology Economy" and be reprioritized and reinvested for maximum statewide impact and leverage.

Viewed as an IT Ecosystem, the State of Iowa will require redirected and prioritized investments to be captured and invested by a governance board to ensure the capabilities for technology enablement of the Departmental business now and in the future.



Chapter 10: Actionable Recommendations

Focal Point

The EIP assessment was conducted utilizing proven methods and tools which covered 20 specific areas for determining the state of readiness of the Information Technology organization and its ability to transform into “IT acting like a Business”. The findings determined Department and Agency Critical Success Factors (CSFs), a Common Executive Vision (CEV), specific Business Drivers (BD’s), Requirements for Information Technology, and defined gaps for meeting business needs from IT operations. Based on these findings as well as trends and benchmarks, Coeur Group provides these recommendations for maximum impact on the precepts of the EIP Assessment and the requirements of House File 534.

Observations

Key findings indicated some specific operational areas which require improvements and implementation on a programmatic basis. Coeur Group has defined the key findings, Coeur Group’s recommended action and the benefit and impact as shown below.

Recommended Actions

Based on the findings and assessment outputs, four programmatic recommendations are addressed which should be moved forward as soon as possible.

Four Defined Programmatic Recommended Actions

Four programs are defined which should be implemented along with the organizational change to a Service Provider model as recommend. These programs are focused at providing immediate and long term cost savings and reductions, elimination of duplications of investment and resource efforts and reinvestment directed back into the Information Technology infrastructure to improve the capabilities of IT as well as reduce the amount of new funding to be reinvested. These programs include:

1. Leverage Common Statewide Infrastructure

As part of the Common Infrastructure initiative, consolidation of the Network Operations will focus on developing a statewide management structure to allow optimization of the departments’ network and telecommunications requirements. This positions the State’s computing environment for long term value. Agencies are then allowed to focus on core business needs rather than on defining technical infrastructure. Finally, it eliminates diffusion of technology and reduces Total Cost of Ownership (TCO).



A commonly shared technology infrastructure is the basis for a *Service Provider* model of governance.

The state of Iowa's infrastructure, provide a common set of functions needed by many departments that are not specific to individual environments, such as data center operations and large-volume printing, are managed as a part of a shared technology infrastructure. This is similar to utility services—it is not appropriate for each agency to design and build custom networks, firewalls, messaging systems, etc. when fully featured and interoperable systems are available. These services must be highly reliable, cost effective, and serve as the foundation for agency mission applications.

Iowa currently has a robust, state owned network backbone in the Iowa Communications Network (ICN).

Mainframe

445 MIPS installed
373 MIPS used
3,860 GB installed DASD
43,426 tape mounts per mo.
4.7M pages printed per mo.
88,151 production jobs per mo.

Mini-computer (AS/400, Sun, storage boxes)

538 GB installed DASD
600 tape mounts per mo.
4.7M pages printed per mo.
220 production jobs per mo.

Non-Windows desktops/servers

5 Unix/Linux email servers
264 server processors
7,189 GB disk storage
1,519 Installs, Moves, Additions, and Changes per year

Windows-Based desktops/servers

37 Intel email servers
1,256 server processors
54,722 GB disk storage
5,509 Installs, Moves, Additions, and Changes per year
17,697 Windows desktops & laptops w/network access
36 Non-Windows desktops & laptops w/network access

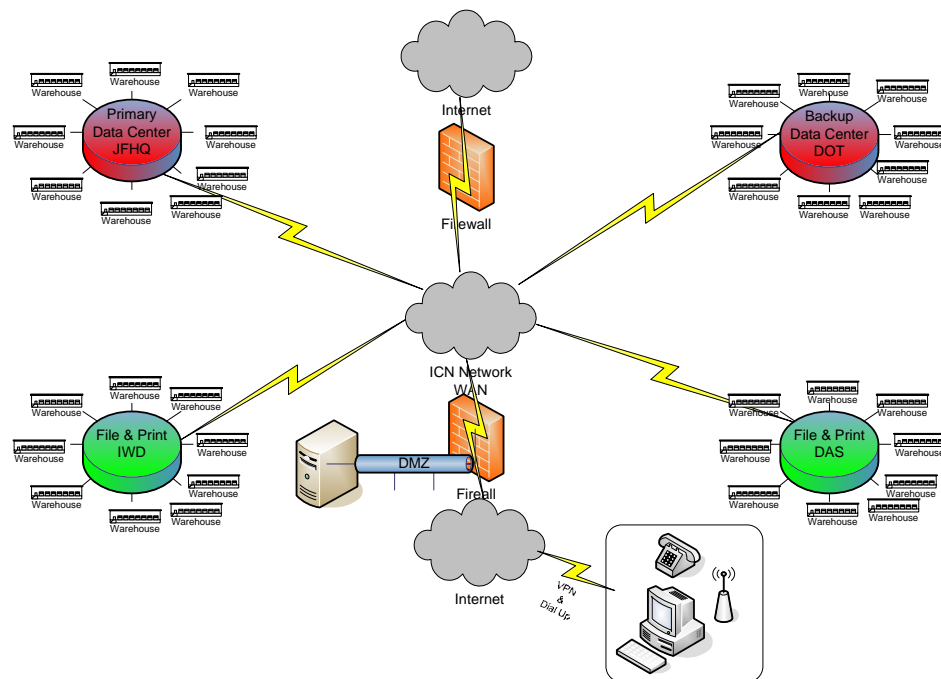
2. Data Center Consolidation

A Data Center consolidation initiative will optimize the management and maintenance of data center facilities, servers, mainframes, and storage devices.



Higher levels of security and business continuity/disaster recovery will be realized. Consolidation will also lower labor costs in management of Data Centers and will lower facility costs. Identified key technology consolidation is with centralized messaging and reducing the number of e-mail systems across the enterprise. Additionally, server consolidation allows for cost effective use of technology as well as better utilization of available capacity.

The physical Data Center consolidation recommendation is to convert the Data Centers in ITE and IWD to File and Print facilities, the build-out of the JFHQ facility to be the primary state data center and the continuation of the use of the DOT data center. The key advantage to this strategy beyond cost is that JFHQ and DOT data centers can then be used for business continuity between the two sites, offering the state the opportunity for true backup and storage in physically separate locations. This also provides for the necessary hardware and software redundancy required within a business continuity plan. The use of JFHQ increases the physical security surrounding the data center operation. Additionally, this allows for File and Print to be separated physically from the data center operations.



3. Move to a Highly Standardized Statewide Desktop Environment – Initiate a “Lifecycle” Program

A hardware Lifecycle program will enable investments in needed technology such as PC’s and aging servers to be replaced and cascaded to maximize the utilization and effectiveness of the systems. A Lifecycle Program also improves State purchasing power and license management. It enhances information sharing and staff productivity via common, current PC tools and promotes basic IT service provision as a “utility” across the State. Finally, Lifecycle Management utilizes the expertise of vendor management and supplier scorecards to gain value from purchases.



4. Conduct a Complete Enterprise Application Inventory and Consolidation

The Enterprise Application inventory will focus on merging applications that support the same or similar business processes within and among organizations. This results in lower application maintenance costs, fewer new application development projects, leveraging current applications across the enterprise.

Four Defined Information Technology Process Recommended Actions

Focal Point

Based on the assessment inputs and methods used to determine the outputs and recommendations, Coeur Group provides the following IT Process Improvements and Organizational Recommendations. We believe that to effectively achieve the value desired from future investments in technology and to maximize the return on those scarce resources already invested; these recommendations should be initiated as soon as possible. Our team has observed a number of areas regarding process and organizational operations that are not effective in the current structure and will not progress beyond their current state due to culture and lack of authority in the appropriate places.

Observations

Based on the assessment outputs, we found several areas which would promote maximizing efficiencies and effectiveness of the states Information Technology operations. Major shortfalls are evident in the budgeting and



funding processes across all departments and ITE. A clear understanding of the total expenditures for Information Technology and support are not consistently tracked or audited. Based on the focus of the EIP assessment, we believe it is essential to create a statewide governance process as well as a statewide technology architecture as two primary building blocks for gaining value from any technology investments. Other key recommendations for process and organizations changes are described below.

Recommended Action

The organizational and process improvement recommendations defined below are a critical part of the new organization models provided in this report. A major premise supporting the goals of the EIP Assessment and House File 534 are contained within 4 critical questions:

1. How can investments in technology add maximum value to the state?
2. How can we increase cost effectiveness on a statewide basis?
3. How can we provide a greater focus on the core mission of the State?
4. How can we effectively manage scarce resources and improve service delivery?

Based on these 4 directional questions, the department and agency interviews, an exploration of critical success factors and business drivers and the identification of Gaps of IT operations, Coeur Group offer the following recommendations for providing the best opportunity for successful IT support to the departments:

1. *Establish a Technology Governance Board*
2. *Develop and Enterprise Portfolio Management Office (EPfMO) approach to funding methodologies to allow more fiscal and management efficiencies.*
3. *Develop a statewide Enterprise Architecture for defining, developing and implementing a statewide common infrastructure standard.*
4. *Develop a Performance Based Partnering Strategy (PBPS) with the State's primary suppliers and vendors and develop a centralized IT procurement process to enable maximizing leverage across all departments and agencies when purchasing technology.*

A brief overview of each recommended Organizational change is provided below:

1. Establish a Technology Governance Board

There is currently no clear, consistent methodology to evaluate the merits of information technology projects on a statewide basis. We recommend a board with specific statewide authority for all new Information Technology initiatives (projects) desired by all Executive Branch Departments and a more



formal business case review process and measurements than the current Information Technology Council.

The Governance Board should have membership which represents a cross section of functional backgrounds. The responsibilities should be clarified and strengthened and provide clear governance authority to review and approve all new Information Technology initiatives, projects and plans. Allocation of funding for these approved initiatives is the clear authority of this committee. To redefine the authority, roles and responsibilities of this committee, we recommend its renaming to clarify its “Governance” role. An initial review of membership, definition of a Charter, clarification of processes, and definition for roles and responsibilities are the initial steps for enabling the governance structure.

One of the most needed improvements is in the quality of information available to the Governor and senior advisors when they decide on technology initiatives funded from the general fund and other state and federal sources. In order to achieve this improvement, we recommend that a Technology Investment Governance Board (TIGB) be established which will set policy and strategy, as well as propose, review, and prioritize the statewide technology investments and initiatives. The Governor should appoint seven to nine voting members to serve on this board.

Technology Investment Governance Board		
Organization	Member	Vote
State Chief Information Officer		Yes
Department Head		Yes
Department Head		Yes
Department Head		Yes
ITTC Chairperson		Yes
University Representation		Yes
State Auditors Office		Yes
Department of Management		Yes
Private Sector Executive		Yes
State Legislator		No
State Legislator		No



The state's chief information officer (CIO) would serve as chair.

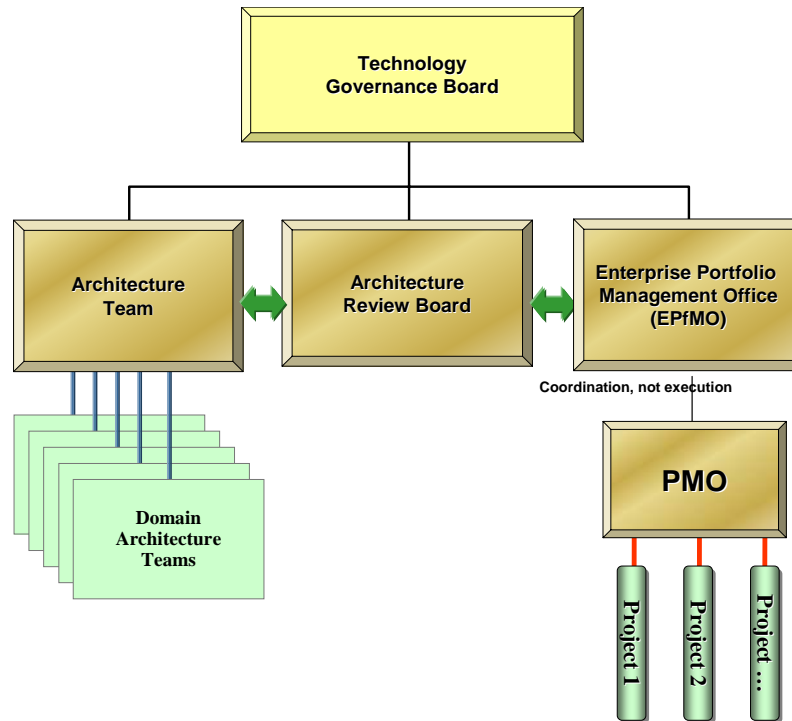
The success of this governance board will be dependent upon its membership taking the work of the board seriously and not delegating their representation to staff members.

The Responsibilities of the Technology Investment Governance board includes:

Implement a process for the selection, control, and evaluation of IT investments. A recommended approach is to:

- Establish a process, to assess IT initiatives in the budget review process, and to control and evaluate ongoing IT investment implementation.
- Implement a standard process to manage the selection, control, and evaluation of IT investments.
- Assist the Chief Information Officer (CIO) in developing an Information Technology budget to reflect the total amount being spent on technology
- Set statewide standards and ensure that projects follow relevant guidelines and standards
- Identify projects that can cross agency and program boundaries to leverage resources
- Review the progress of current projects to determine if they are on budget, have met their project milestones etc.
- Implement a standard process and establish standard IT investment scoring and ranking criteria to determine which IT investments are best suited to meet the state's needs.
- Use the Information Technology Investment Portfolio approach to document and track performance of all major investments by category.





Various governance bodies must exist that are separate but interrelated to ensure maximizing technology investment resources. These include the Technology Investment Governance Board (TIGB), the Information Technology Council (ITC), and the Enterprise Portfolio Management Office (EPfMO). Each of these has varying degrees of impact on the technology investments from investment approval to project delivery performance as shown in the chart below.

Governing Bodies	Areas of Concern/Responsibility
Business – Technology Investment Governance Board	Business Vision Prioritization Tactics Fiscal Management
Technology - Information Technology Council	Technology Acquisition Enterprise Architecture Standards Compliance
Project Management Delivery - Enterprise Portfolio Management Office (Project Management)	Portfolios of projects Project Delivery Staffing Budget Resource Allocation Progress Reporting



2. Develop an Enterprise Portfolio Management Office

Risk management is a key role of the EPfMO for managing financial returns, schedule, technical and people. The EPfMO doesn't make all the decisions but rather Identifies key issues and Provides executives with decision quality information.

EPfMO approach to funding methodologies to allow more fiscal and management efficiencies. Tracking of funds spent on technology projects is currently very difficult. The overall funding process must be simplified. Develop an Enterprise Portfolio Management Office (EPfMO) to better utilize project resources and derive higher levels of successful project implementation. An enterprise portfolio management approach along with a Project Management Office (PMO) is required to enable significant increases in project success and fulfillment. A Departmental budget for Information Technology is the initiation point to ensure all services required for department/agency requirements are defined, funded and provided by the Information Technology Enterprise.

Focal Point

IT Portfolio Management is a disciplined and structured approach of continuous, repeatable, and easily sustainable processes. Using a financial metaphor as the foundation, IT Portfolio Management enables organizations to categorize, evaluate, prioritize, purchase, and manage technology assets (hardware, software, and people) and projects. It also enables organizations to align these assets with current and future business needs to achieve an acceptable balance of risk and value.

There are three reasons why we believe Enterprise Portfolio management should be integrated into the State of Iowa's Information Technology organization in the form of an Enterprise Portfolio Management Office.

5. Information Technology organizations that we have seen and researched which have adopted IT Portfolio Management have exemplary records of continuous IT efficiency improvement — with some organizations reducing their costs by up to 30% with a two to three times increase in value
6. It is the only method by which organizations can manage IT from an investment perspective with a continuing focus on value, risk, cost, and benefits
7. It is the most effective strategy for achieving sustainable IT/business alignment
8. Information gained from client engagements as well as research from META Group, Gartner Group and Forrester Research indicated the following reasons why Information Technology organizations must initiate an Enterprise Portfolio Management Office which manages all technology



investments (the implementation governance process) and oversees project portfolios to drive high levels of project success.

- 84% of IT organizations either do not develop business cases for their IT projects at all, or just do them on a select few key projects
- 83% of IT organizations are unable to adjust and align their budgets with business needs more than once or twice a year
- 89% of IT organizations are flying blind — virtually no metrics except for top level finance
- 57% of IT organizations perceive they are balancing the pressures of cost-cutting and IT effectiveness — but perception is not necessarily reality

Observations

During the 4-month process of conducting the EIP Assessment of the 40 plus Departments and Agencies, one of the major barriers to defining effectiveness and value creation from technology investments was in the lack of investment tracking and measures of performance across projects.

Projects are sometimes listed on the 'ROI' system, however tracking of project success does not appear highly utilized. Additionally, the state lacks sufficient numbers of certified Project Managers with the disciplines required for complex project implementation. Certification of Project Managers is a formal educating process with annual continuing education requirements through the Project Management Institute.

Recommendations

Goals of IT Enterprise Portfolio Management Office: Driving Forces

While different IT organizations provide slightly differing approaches to managing technology implementations, we believe the State of Iowa will gain value in developing an Enterprise Portfolio Management Office enabling the following value capture elements:

Creating a single source from which to see all existing IT assets, initiatives, and potential investment opportunities

Providing visibility of IT projects to senior and middle management by offering the relative value of each project within the portfolio, rather than just viewing each project based on its own merit and status

Selecting the best mix (holistic) of projects more quickly (enabling shorter, easier, and more reliable initiation, evaluation, and prioritization)

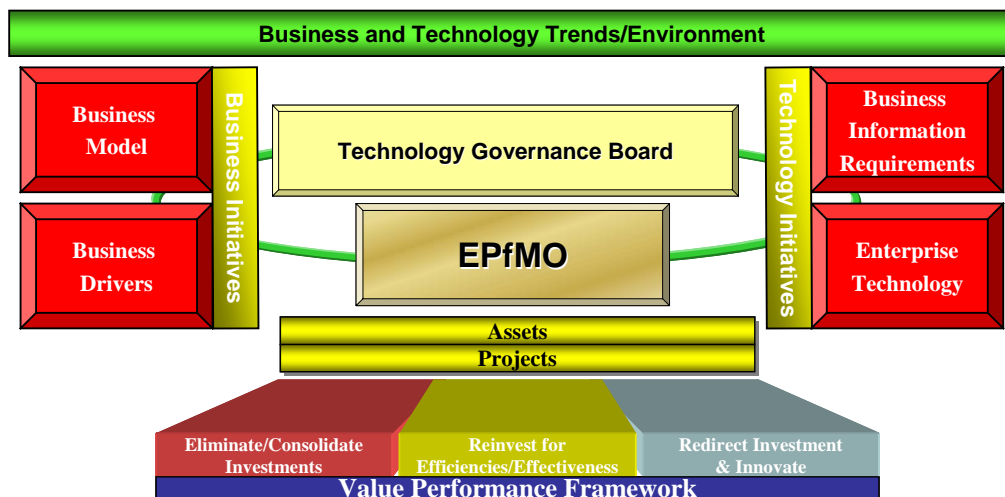
Facilitating executive decision-making

Saving money by prioritizing projects and assets relative to the overall project and IT portfolio instead of in their own right, resulting in fewer redundancies across projects and better sequencing of efforts

Achieving demonstrably higher return on assets, resources, and investments

A Vehicle for IT Value Delivery

Deploying Enterprise Portfolio Management (EPfM) is one of the leading edge processes public sector IT organizations are utilizing to ensure value from each business driven or technology investment. CIOs are increasingly looking toward IT portfolio management as an excellent communication tool with their departmental business colleagues. Information Technology Portfolio's enable risk/reward-based, departmental business-focused dialog on optimizing return on the organization's IT investment. Information Technology leaders that successfully implement EPfMO follow a formal implementation/governance methodology such as those depicted in the diagram.



The Project Management Office (PMO) Role

Assessing the IT Organizations EPfMO maturity level and looking toward the Project Management Office for a knowledge base on implementing successful project investments is a recommended process change for the State of Iowa.

We believe Enterprise Portfolio Management (EPfM) strategies provide the only method that is a disciplined and structured approach of continuous, repeatable, and easily sustainable processes.



The Enterprise Portfolio Management Office provides a holistic view of the coordination and control of all projects and programs within the enterprise. It integrates planning, strategy, resource allocation and architecture management to achieve best value to the enterprise.

3. Develop a Statewide Enterprise Architecture

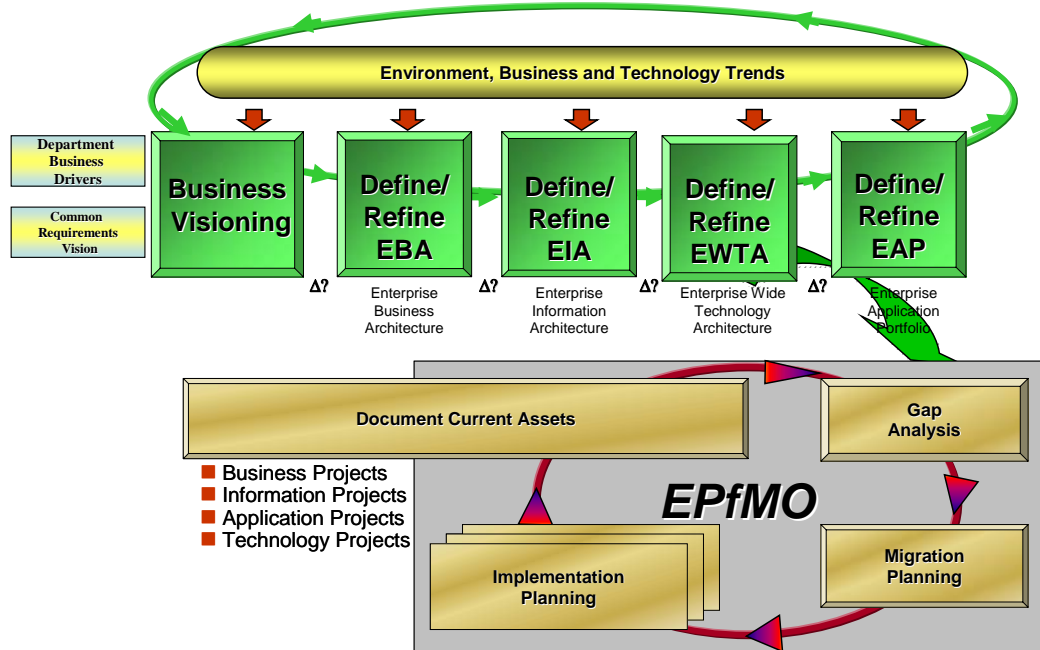
Develop a statewide Enterprise Architecture for defining, developing and implementing a statewide common infrastructure standard. The development of a common IT infrastructure is a requirement defined by numerous department directors and staffs. An Enterprise Architecture is a basic requirement which will enable Iowa to better define technology requirements, spend wisely to maximize investments and reduce lifetime cost of ownership for technology.

Focal Point

Enterprise Architecture (EA) describes how the state uses information technology in order to achieve greater efficiencies and streamline operations with a focus on interoperability and connectivity as key elements of communication and data sharing among organizations across the enterprise. It is a guiding blueprint for strategically managing Information Technology resources to create an alignment between the state's departmental business needs and technology. Enterprise Architecture encompasses an interrelated set of domain architectures intended to guide all Information Technology activities supporting enterprise initiatives.

To create Enterprise Architecture, the state's department Directors and IT professionals must achieve a common and cohesive vision of the core mission and key business challenges as well as the opportunities and "problem corridors" the departments expect to encounter.

Enterprise Architecture, then, is a process that expresses the enterprise's key business, information, application, and technology strategies and their impact on the state's business functions and processes. Enterprise Architecture institutionalizes disciplined analysis and decision-making. It must be driven by the statewide business and technology strategy.



The Enterprise Architecture Process Model shown above provides a logical approach to developing an Enterprise Architecture for the state of Iowa. It is a multiphase, iterative, non-linear model focused on Enterprise Architecture development, evolution, and migration as well as on the ancillary governance, organizational, and management processes. It represents key characteristics and a synthesis of best practices of how other states and private sector companies are delivering enterprise architecture

4. Develop a Performance Based Partnering Strategy

Develop a Performance Based Partnering Strategy (PBPS) with the state's primary suppliers and vendors and develop a centralized IT procurement process to enable maximizing leverage across all departments and agencies when buying technology. A sourcing strategy defines vendor partnering relationships based on product and services as well as performance measures. In order to gain cost savings, reduce cost of IT business operations and control diverse spending on technology, a PBPS program must be instituted across all EIP departments and agencies. This program will provide high leverage and immediate, as well as long-term cost savings. This centralized approach ensures standards are observed reducing maintenance and support costs. Auditing of the total procurement spend for technology assets enables lifecycle asset management and increases savings from supplier involvement in developing added value for the state.

Sourcing Model

Focal Point



The sourcing model looks across business drivers to develop a sourcing strategy that achieves a value-based sourcing management approach.

To maximize the value of technology resource investments while minimizing risk, a sourcing strategy is required. To set the strategy, it is first important to look across the business drivers.

The EIP assessment process has identified 6 major business drivers which help determine a basis for sourcing. These drivers include Regulatory and Compliance, Data Management, secure access to information, cost effectiveness, service delivery value and business and IT alignment.

Based on these Business Drivers (BD's), key components of a procurement and sourcing strategy are essential to ensure the Departments and Agencies have appropriate requirements and supportive technology services to run mission critical elements of their operations.

Coeur Trend: Through 2004, best-practice Procurement Organization groups will mature basic process execution and incorporate proper operational metrics. By 2006, 75% of procurement groups will adopt center-of-excellence structures tied to products, services and customer relationships, leverage end-to-end process capabilities, and use operational patterns for impact assessment and rapid change assimilation.

Included in the sourcing strategy requirements are the following:

Spend Analysis — to assess past and forecast future spending to determine how much improvement is possible in the acquisition of technology products and services.

Procurement Practices — to assess the efficiency and effectiveness of procurement procedures.

Procurement Governance — to assess the effectiveness of the procurement governance spending requirements.

After the strategy has been implemented, it must then be managed. Four key areas of management then lead to the maintenance of the program.

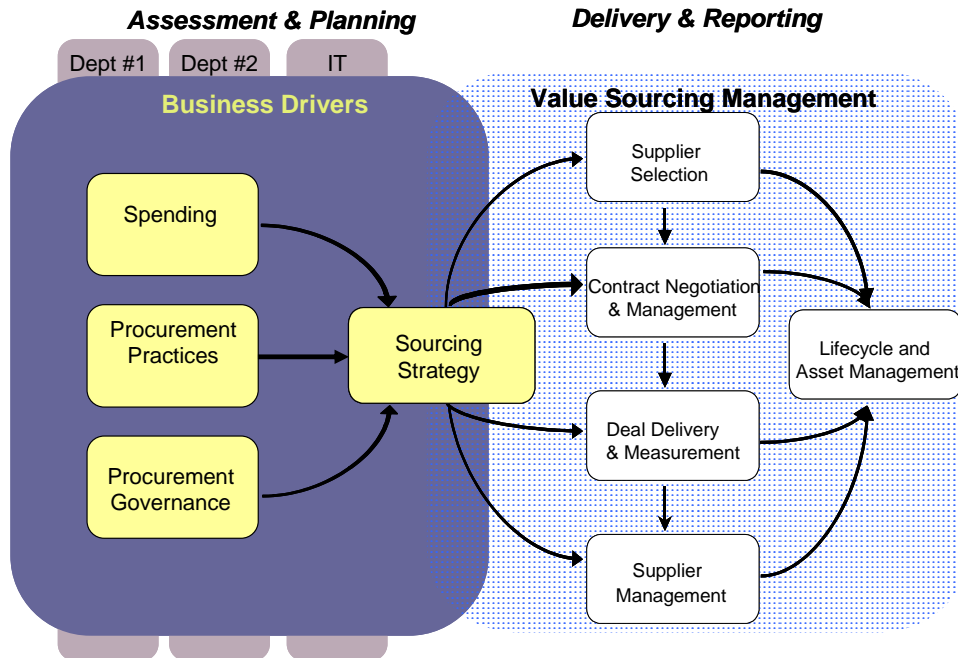
Supplier Selection — to select the most qualified supplier with minimal cost and risk.

Contract Negotiation and Management — to structure sustainable, win-win deals and effectively update contracts to reflect changing requirements while minimizing risk and waste.

Deal Execution and Measurement — to maximize performance value in the delivery of the deal.

Supplier Management — to facilitate good supplier relationships.

Lifecycle and Asset Management becomes the overriding program maintenance of the strategy. However, this is not an end state, but a beginning to an integrated program to leverage costs and meet architectural standards across the state.



Three Critical Information Technology Organization Recommendations

Focal Point

Based on the assessment views regarding the Information Technology organization capabilities, maturity of operations, business requirements of IT and cultural elements, the Information Technology organization will require change to enable full leverage of invested funding.

Observations

During the course of this assessment over a period of four months, it was clear that a central authority for Information Technology was a key missing element required to move any disciplined statewide supportive Information Technology objective forward. Additionally, in almost all states compared in benchmarks and surveys, Information Technology management had simultaneous responsibility for all technology and telecommunications. In Iowa's case this is not true and is a major deterrent to leveraging network management and telecommunications efforts and investments.

Organizational Recommended Actions

1. Redefine the Role of the Chief Information Officer (CIO)

Redefine the role of the CIO and hire/appoint an executive with the appropriate skills. The majority of public and private sector CIOs have responsibility for establishing direction for both telecommunications and information technology. In Iowa however, the ICN is responsible for establishing the Telecommunications direction and through Chapter 8D of the Iowa Code.

Under the current structure the role of State CIO does not exist. However, Iowa has created a position within Department of Administrative Services as the Chief Operating Officer for the Information Technology Enterprise. This COO position does not have the required authority to consolidate statewide resources and assets to maximize value and returns from state and federal funding. We believe the current position should have responsibility for both ICN and ITE. We believe the lack of executive level and cross-department/agency authority for the CIO has been one of the reasons Iowa has struggled with its statewide IT direction.

The statewide CIO should possess a number of strengths, including leadership experience, an understanding of business and technology, as well as good communication and negotiation skills. Specifically, in Iowa's current environment and to transition to a "Value Performance Based" Information Technology organization, the CIO needs to be a "Transition-Capable" CIO.

Today's Public sector is facing a massive leadership gap in the CIOs office that requires it to develop new models and management modes. While 38% of the IT organization population has the talent to become CIOs and fill those vacant chairs, only 2% are making that career choice.

Source: META Group

Organizational Impacts

The Statewide CIO will have four primary responsibilities:

1. To serve State Department and Agencies and executing agreed upon technology strategy, plans, and projects by insuring the timely delivery of quality technology solutions, products, and services on a cost effective basis, including setting and maintaining appropriate standards and managing relationships with, and the performance of, selected third party technology vendors.
2. To serve as chair of the Technology Governance Board, (TGB) which shall set technology priorities within an over all technology budget. Additionally, the CIO, with the assistance of the Technology Governance board (TGB) shall ensure that major technology projects deliver promised benefits, on time and on budget and consistent with the state's information architecture and technology life cycle.
3. To build, develop, motivate, and retain a high performance team of technology professionals that will enable the state of Iowa to achieve its technology vision, strategies, and specific performance objectives.



4. To develop, implement, maintain, and improve a technology life cycle that includes establishing a consistent framework for all information projects and a governance process that insures the information architecture and information capability is appropriate for the business of government in the state of Iowa.

2. Create a Customer Relationship Management Focus

A Gap defined by the Department and Agency Directors included the requirement for better understanding and alignment of the department business need with that of information technology implementation. A clear focus on Customer Relationship Management is recommended to ensure the mission critical information needs are fulfilled with the correct technology initiatives.

Focal Point

Many organizations recognize that their process performance does not meet the needs of the business. Unfortunately, many organizations have not effectively identified which processes cause the most problems, which processes impact other processes, and cannot effectively measure existing performance. In fact, approximately 80% of organizations do not have a list of their operational processes, and even a smaller percentage has those processes documented to any degree. Through 2004, the business relationship management (BRM) role will prove critical to process maturity modeling efforts. Specifically, business relationship managers will take a lead role in identifying which operational processes are most critical to the business, ultimately facilitating process prioritization work efforts.

These managers are now taking ownership of operational performance reporting, service-level agreements, and IT product/services and related cost recovery efforts. Ultimately, business relationship managers will enable operations groups to maximize the business' confidence in the IT/business relationship.

Observations

The role of the customer relationship manager in the current environment is provided only in the large departments by the CIO. Furthermore the CIOs in the large departments are only focused internally and do not to relate externally to other departments or external vendor/partners. We believe this is an excellent focus as the CIOs in the large departments understand the critical elements of the department's business processes and core mission. We believe it is essential to encourage and extended his role of the large department CIOs to engage and interact with medium and small department agencies as well. Likewise these CIOs should have additional responsibilities that cross departmental boundaries and include Center of Excellence responsibility thereby leveraging their knowledge and senior leadership role.

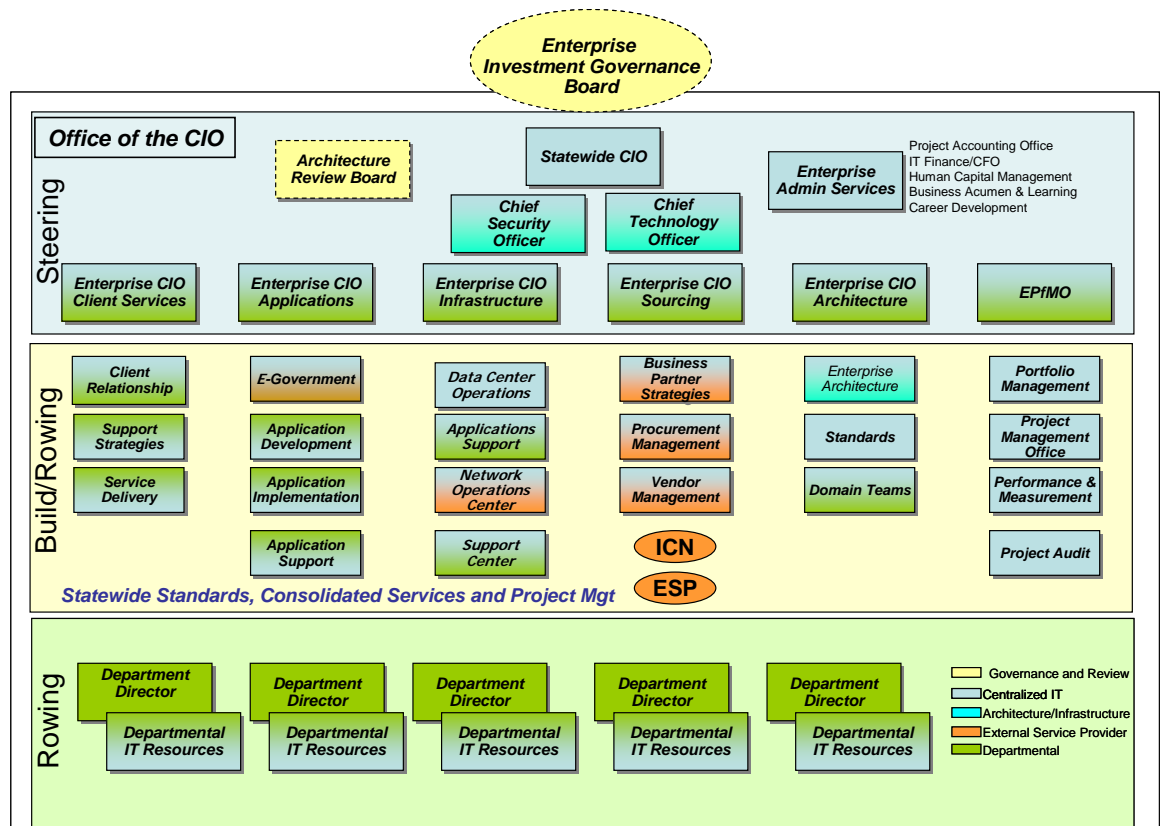


Recommendations

Included in each of the three defined organizational models we have defined and expanded the role of the large Department CIO to include the critical and evolving role of Business Relationship Manager. Additionally, we believe the senior leadership of the large Department CIOs will be very effective and extending the knowledge base by assigning additional departments which are not able to secure this high level talent.

3. Create a Statewide Information Technology Service Provider Organization

This new organization will function largely as a “Service Provider”, whose mission is to assure delivery of technology capabilities, including more extensive management of relationships with strategic departments and business partners. This builds on the strengths and efforts already developed within the current ITE organization, but dramatically changes the operational aspects as opposed to the current structure.



Opportunities for IT Operational Improvements

Focal Point

At the agency level, we found tremendous variation in formality of IT governance processes. Some agencies have a structured approach that aligns IT investments with business priorities. Others take less formal routes. The ROI system for determining ROI, which also is the singular point of collection for all requested projects, is not utilized across the departments. Most information on this system is aging and invalid.

All agencies submit IT plans, however most view this as an exercise focused primarily on budget preparation rather than development of strategic IT direction for the agencies.

Three specific areas of IT governance concern surround:

- The lack of standard processes and tools for project evaluation – a factor that contributes to the fragmentation of the State’s application architecture and creates a barrier to managing the State’s application investments from a portfolio view
- Inconsistent performance measures for IT projects – making it difficult to quantify the value received for technology-related investments
- Insufficient IT management and performance reporting mechanisms for the Legislature – impacting the State’s efforts to make informed IT decisions

COBIT and Governance

Iowa can utilize the precepts of COBIT, the Critical Success Factor (CSF) interviews and Operational Maturity outcomes to outline operational governance and accountabilities.

COBIT (Control Objectives for Information and related Technology) critical success factors (CSFs) define the consequential, observable organizational, technical, strategic and tactical actions required for the IT organization to achieve goals for 34 major IT processes. They help define accountabilities for both IT and the business and, therefore, indicate areas where governance principles may need to be defined. As is the case in Iowa, the maturity levels of most departments and agencies require specific improvement in the use of operational best practices.

As IT operational and department relationships mature, these success factors should form the basis of overall IT operational governance.



IT Value Leverage

In today's competitive environment, the State of Iowa is not only addressing economic shortfalls but at the same time must define its role regionally as well as nationally. Certain aspects of defining Iowa's future lie in the utilization of technology to attract business, making it easy to provide statewide and regional services as well as to attract global trading partners. Central to developing the economic focus as outlined for Iowa in the recent Battelle Report is the role of Information Technology and its supporting role in driving economic development. As such, Information Technology in the State of Iowa must be operated efficiently, provide innovative solutions to the departments and agencies, maximize the use of scarce resources and be performance-oriented to compete in the global environment of today and the future. In short, the focus on innovation and entrepreneurial approaches demand "IT as a business discipline."

Cross Department/Agency Leverage

Coeur Group recommends that key strength areas be programmatically implemented across all EIP departments and agencies for performance-based IT management. We believe that the IT organization requires several basic IT Business Operational Disciplines which will provide clear improvements to maturity levels of the organization.

IT Operational Performance Scorecard

A key recommendation includes the adoption of cross-departmental performance scorecards with a standard set of defined processes. Key performance indicators defining operational metrics for uptime and availability, measured against IT "best practices" and performance to IT budget and spend plans are three targeted areas for measurements.





Chapter 11: Organizational Scenarios and Impact Statements

Chapter 11: Organizational Scenarios and Impact Statements

IT Organization, distributed computing and emerging technology have created a complex web of relationships for IT organizations that resists being managed within one organizational model.

Today's IT organization scarcely resembles the traditional structure of the 1980s. Command and control organizations have been augmented by flexible structures that integrate horizontal computing activities such as distributed computing, external electronic commerce, the Internet and mobile/home computing. No single structure has been deemed to be appropriate for all service orientations. Management processes are needed to provide linkages within departmental IT organizations, between departmental IT organizations, and between internal and external services providers. We labeled this a service provider organizational model.

For the past four years, we have studied organizational research which can be characterized by a division of budgetary and IT planning authority between two divisions, generally the Departments and a central IT function. Yet, in Iowa as in other states the IT organizations have evolved into complex, multidimensional relationships with cross boundaries and purposes. This evolutionary model encompasses traditional centralized operations.

The Organizational View: Key to a service provider model is to fixate less on whether relationships appear to be hierarchical and focus on the structures represented within the hierarchy.

In the Figure, infrastructure operations, client support, help desk and the BU application development team are linked in their organizational role of providing a WAN/LAN-based systems development capability. The work is linked by principles of governance, communications and a process that subsumes functional objectives within a broader, lateral IT capability.

The Process View: Each hierarchy within the organization may contribute multiple roles, as well as those fulfilled by external providers. In aggregate, these roles create a capability (e.g., LAN development/deployment including application and infrastructure delivery). The key issues in developing this vision of IT are first, understanding the relationship between the roles, so that appropriate workflows, governance rules and reporting structures can be developed. Secondly, the communications culture must be refined to be consistent between the players so that support management, problem resolution and work handoffs are made routine, and that a climate of efficient and consistent behavior is institutionalized, regardless of the configuration of personnel or the changes made to the structure.



Summary: The use of information within a department or organization reflects business alignments and the relationships between legacy and emerging systems and technologies. In Iowa distributed computing, and its manifestations show a diffused and increasing number of partnerships and external sources of IT providers. The state of Iowa Information Technology organizations currently deal with over 530 separate technology providers. These relationships and buying linkages will continue to pull the Information Technology organizations in many directions while limiting the ability to consolidate resources and policy.

Organizational structures that are flexible and able to change rapidly will adapt. Moving toward “Best Practices” and “Centers of Excellence” for IT operations will focus priorities and yet recognize that there is no single set of organizational responses, alignments or policies that can meet these diverse requirements. Coeur Groups recommendation to move toward a Service Provider organization structure focuses on mixing management styles and coordinating diverse resources to optimize organizational responsiveness.

Organizational Precepts

IT governance requires a joint effort between business and IT because the two intertwine. To be effective senior executives need to design the top-level IT governance arrangements to determine who has the decision rights and who decides what are priorities and accountabilities.

Our previous research has found that good IT governance has a statistically significant correlation with above-average financial performance.

IT governance arrangements should enable business performance goals and even increase the effectiveness of business when obtaining buy-in from the right management levels.

Focal Point

Orientation addresses the boundary and scope issues and shapes the nature and location of decision rights and accountabilities that drive desirable behaviors. These orientations can be categorized into three major types:

Centralized

Aim to increase the integration across the enterprise and leverage scale through similarities across the enterprise.

Service Provider



Aim to increase the flexibility and speed in decision-making time, in processes, and in changing tactics quickly.

Federated

Aim to maximize local decision making, and ensure the ability to respond to local departmental conditions.

The key to tailoring effective IT governance is to use your business orientation to design your styles and mechanisms.

Business orientation has a major impact on the nature and location of business decision rights and accountabilities and, in turn, IT decision rights and accountabilities. Each orientation leads to a different approach.

Business orientation shapes the

- reach and nature of business processes
- way the enterprise is organized and the key skills needed
- nature of management systems for coordination
- emphasis of information and information systems capabilities

These different business orientations shape the key features of effective IT governance styles and mechanisms. Therefore it is important to clearly define where your governance is positioned and understand the differences between the three business orientations.

Although it may seem that an enterprise may have more than one business orientations, generally, one predominates. It is critical to identify this predominant business orientation in tailoring the correct governance for your enterprise.

IT governance has five decision domains:

Principles are high-level statements about how IT will be used to create business value.

Infrastructure strategies describe the approach to building shared and standard IT services.

Architecture is the set of technical choices that guide the enterprise in satisfying business needs.

Business Application needs refer to specifying the business need for applications to be acquired or built.

Investment and Prioritization covers the processing of IT initiatives, their justification, approval and accountability.

Three styles define input and decision rights:

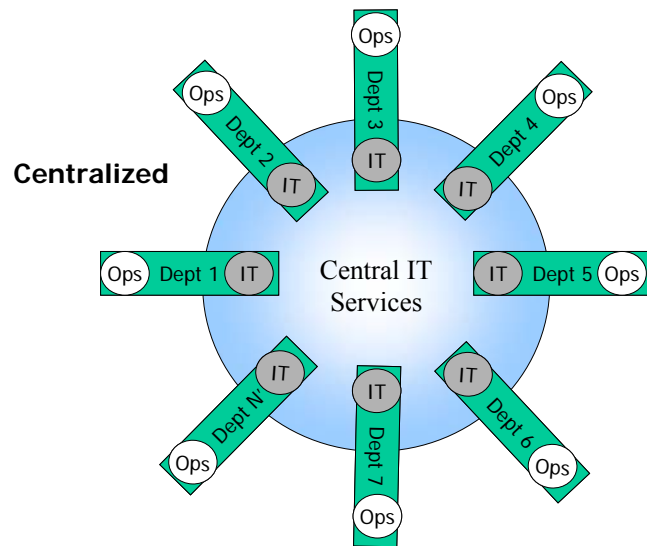
- Centralized: executive leadership has decision rights (an executive committee)
- Service Provider: IT executives have the decision rights (a CIO office)
- Federated: business unit leaders have decision rights, authority is local

Governance mechanisms used to execute the styles include committees, Service Level Agreements (SLA), tracking business value, portals, and charge-back arrangements.

Centralized Model

Centralized enterprises face strong pressures for state-wide integration for their missions. They leverage similarities across their departments through enterprise-wide leadership.

Their IT governance styles show constant enterprise-wide business commitment and top-down technology mandates. In top-performing centralized enterprises, some governance styles work better than others. For example, IT principles, IT investment, priority decisions, and top-level business commitment provides for a straightforward style. For IT infrastructure and IT architecture decisions, high-level business involvement is part of top-down technology mandates.



Effective IT governance mechanisms emphasize clear decision processes, executive-level input and relationships – taking the enterprise-wide approach as much as possible. They increase integration and leverage similarities as much as possible. They implement common processes across business units. They mandate standards, especially in IT infrastructure components, such as desktops, e-mail, IT security, ERP, and other enterprise-wide applications.

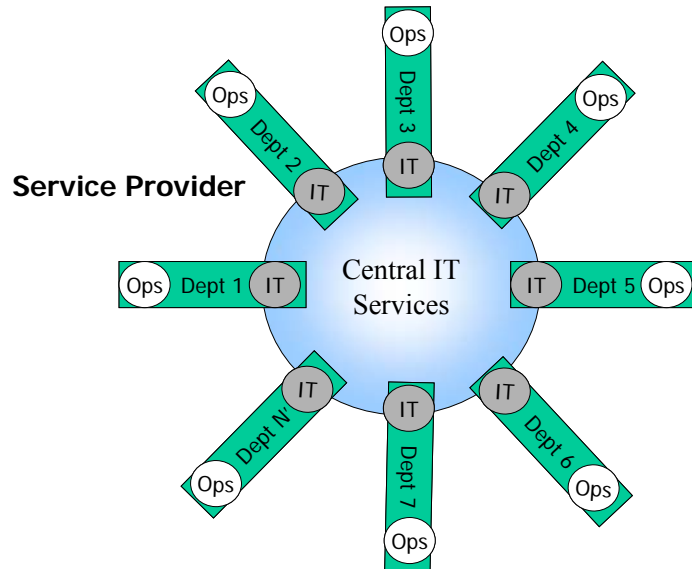
If your enterprise is strongly focused on common practices centralization may be your predominant orientation.

Service Provider Model

Service Provider enterprises emphasize IT's agility, and make greater use of principles and education.

Their IT governance styles emphasize specific decision roles and understanding how IT enables (or hampers) agility. Effective mechanisms make greater use of principles, values, education and communication.

Service Provider enterprises strive for nimbleness by paying close attention to their clients, generally at a local or departmental level. Enterprise-wide structures emphasize coordination.



Service Provider market style of decision-making works well for both IT infrastructure strategies and IT architectures. As the executives grapple with the business trade-offs at the foundations of infrastructure and architecture, they need to know how IT can be used to closely track business needs, respond rapidly and develop new products quickly.

Effective governance mechanisms are those that use and reinforce the culture, principles, the enterprise's value program, continual on-the-job executive "education," and the enterprise's main communication vehicles. Getting departments to meld acting in their own best interest with acting in the enterprise's interest best relies on these subtle, yet powerful, elements of the Service Provider business orientation.

Federated Model

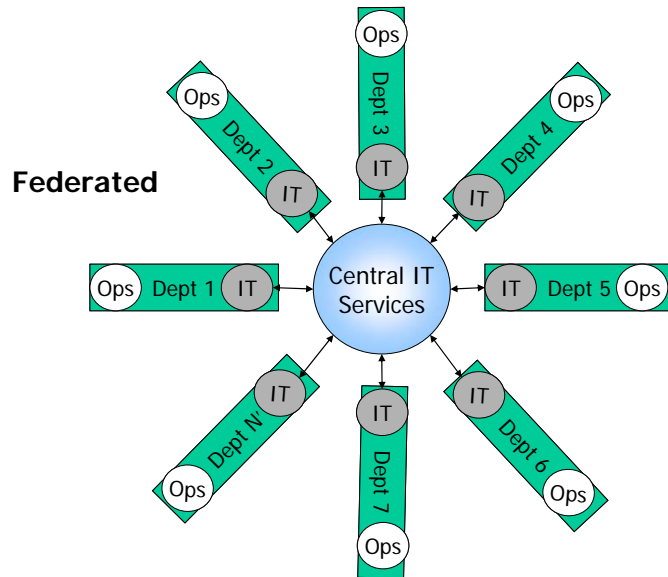
Federated enterprises emphasize business unit decision-making, individual negotiation and peer socialization. Enterprises that foster department autonomy provide minimal central guidance. Some processes or standards may be mandated, but these are mainly for business and IT infrastructure.

Federated enterprises instill less central guidance and the guidance they do give is often arrived at from more bottom-up input and is promoted

through socialization approaches – that is, “selling” the concepts to gain buy-in rather than mandating it.

Federated enterprises emphasize business unit decision-making, individual negotiation, and peer socialization. Their IT governance styles emphasize business unit responsibility for IT decision making. Effective autonomy mechanisms make greater use of individual negotiation and peer socialization such as communities of practice.

In the Federated orientation centralized governance provides overall guidance with a light hand, preferring instead to let the departments function as they see fit. As a result, seeking any kind of commonality requires a lot of bottom-up work to build consensus that common approaches will indeed benefit the basic business units.



Along with other functions such as HR and finance, parts of IT are most cost-effectively provided enterprise-wide, providing the same for all. In these areas, such as IT infrastructure, the job of the CIO becomes a one-on-one sales job often facilitating communities of IT management interest.

With the diversity engendered by the departments, IT tends to act as an internal service provider, and establishes provider-like IT governance mechanisms.

IT governance aims to enable and leverage business orientation through the use of decision-making styles sensitive to business orientation, with mechanisms that draw on enterprise values, and simple communications while maintaining alignment with enterprise behavioral norms.

But keep two caveats in mind. First, many mechanisms are necessary in every situation. It is more a matter of emphasis of effort and how the mechanisms are applied than difference in mechanisms. For example, councils or committees for joint business – IT decision making are always necessary. However, it is the membership, how they are used,



where they are located in the enterprise, and the extent and nature of their responsibilities that differ between the three business orientations.

Second, there is growing tendency to expect some functions to provide common infrastructures, such as infrastructures for finance, human resources and IT.

Overtly link your IT governance styles and mechanisms to your business orientation:

The most effective IT governance is modeled after the business governance, is kept as simple as possible and communicated in as many forums as possible to become engrained in the culture. Operational success requires regular reviews of the appropriateness of their IT governance styles and mechanisms in three ways to ensure ongoing organizational and cultural fit:

For consistency and interdependence of decision making. Are the styles and mechanisms in line with the business orientation? Are appropriate mechanisms in place with both input and decision rights?

For alignment with Enterprise values. If peer pressure is used to adopt standards, is it working? How are corporate values changing and how might this impact the mechanisms you have in place?

For simplicity of communication. For example, are your IT principles clear and in good business language? How are you working with new executives to ensure they are fully aware of IT governance in your enterprise and how it can help them?

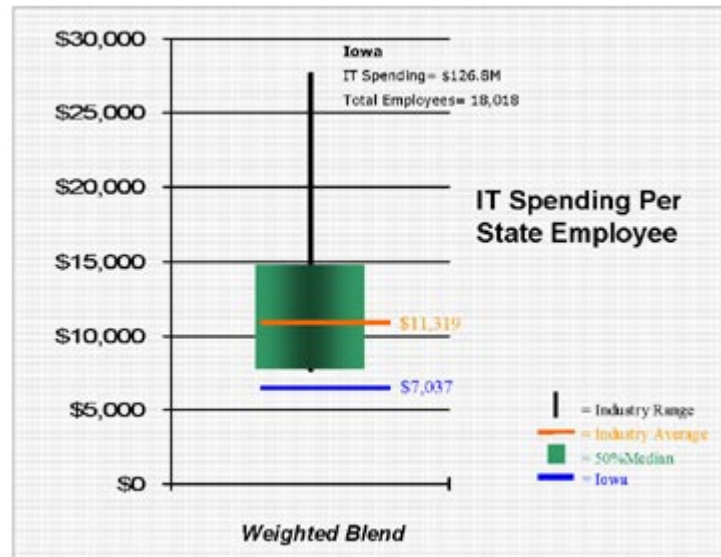
Benchmark Comparisons

In order to examine how Iowa compares to similar organizations in its IT investments, benchmark data was gathered from various industry sources, world wide benchmark data, and from Coeur's own research. A "blended" benchmark was constructed and defined utilizing a "Peer Group" of organizations providing similar services on a similar scale.

Coeur developed the comparisons for this study and the results are provided in the diagrams below.

Information Technology Spend Per Employee

One of the comparative benchmarks is the comparison of Total State Employees to Total Technology Spend. Iowa's comparison to the peer group is shown below.



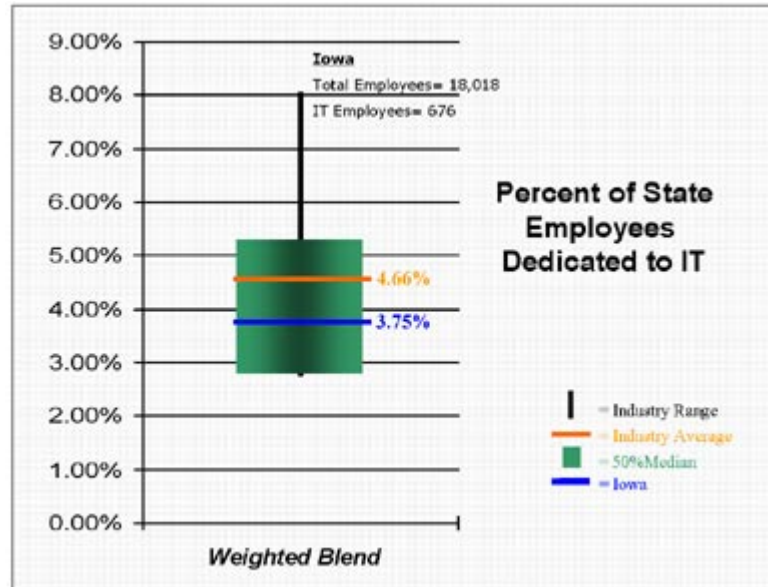
The diagram above illustrates an ongoing deficit over at least the past three years in investments in the current Information Technology infrastructure of approximately 30% compared to the peer organizations. Based on research and previous documentation for the State of Iowa, our findings indicate the infrastructure investments have decreased approximately \$9 million over the past 3 years. This decrease has been driven by cost reduction goals and other funding reductions for technology as viewed across the state.

Specifically, if Iowa were investing at the peer group rate, the IT funding would be approximately \$180 million to \$200 million and place Iowa very close to the benchmark mean.

We believe cost reductions will be gained from the consolidation of infrastructure and the programs recommended. However, it is highly recommended that any cost savings generated from process and/or organizational consolidation impacts remain captive in the **“Information Technology Economy”** and be reprioritized and reinvested for maximum statewide impact and leverage. Viewed as an IT Ecosystem, the State of Iowa will require redirected and prioritized investments to be captured and invested by a governance board to ensure the capabilities for technology enablement of the departmental business now and in the future.

Information Technology Employee Population Comparison

In addition to a comparison of IT spending, a benchmark was developed for Iowa that compares the percent of State employees dedicated to IT-related activities. The diagram below depicts Iowa’s comparison to the peer organizations.



Based on world wide benchmarks as well as peer group states, Iowa's Information Technology resource levels are generally comparable and in line for the infrastructure operations workload reviewed.

The benchmark diagrams above provides a very high level comparison of the IT spending and levels of employment for Iowa against a select group of other states and organizations with characteristics similar to Iowa. This information represents one data point and should be taken into context with other information. The spending patterns and needs of the State of Iowa can differ significantly with that of other states. Caution must be taken when considering this data and it should not be given more weight than is reasonable in the context of a much larger study. Without the benefit of a detail study to ensure a valid comparison exists it is difficult to draw any major conclusions from this data. However, it is useful to view this information at a very high level to determine if there are any obvious inconsistencies between Iowa and the peer organizations. As stated above, the level of spending on IT-related products and services for Iowa is low and has been below levels necessary to remain efficient and competitive for the past several years.

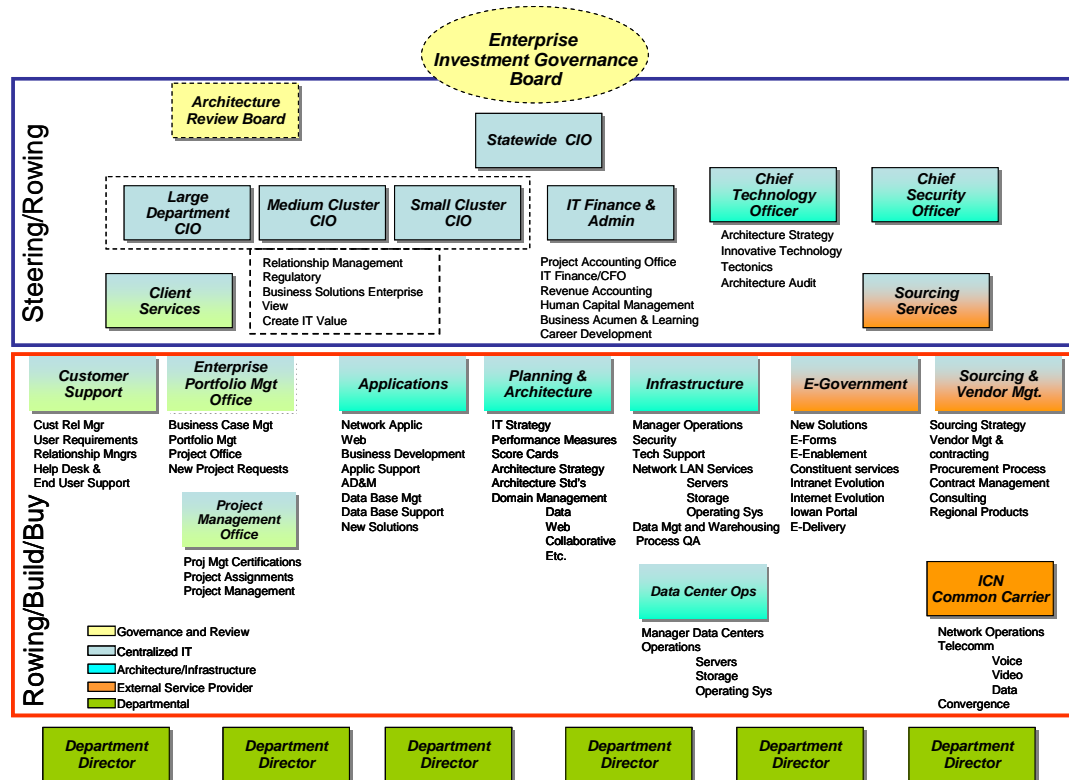
Organization Model/Scenario Comparisons

The baseline IT costs for the Scenario cost impacts is based upon a derived three year average for FYs 2002, 2003 and 2004 instead of a single point FY 2003 value. The IT costs for State FTE labor and vendor technology spending are based on FY02 - FY04 data provided by DAS from the state accounting records. Occupancy, Infrastructure, ITE, ICN, Other Agency and Outside IT Services costs are based upon the FY 2003 data reported by the departments and agencies.



Centralized Model

This alternative entails “Centralization” of all resources into a single department including technology, human capital, assets and funding. This alternative is mandated by House File 534 and represented in the following description.



Process Impact: Centralization of all Procurement processes, investment governance, and architectural standards for technology.

Organizational Impact: A State CIO would be appointed by the Governor to head this department and report directly to the Governor. The new state IT organization would provide all Information Services and Information Technology to the Departments/ Agencies (exceptions include Lottery and Regents) in the State of Iowa. All assets, technology and human capital would be transferred into this organization. The departments would purchase services from this organization based on an established rate structure and would receive a monthly invoice for services provided. The new state IT organization would essentially become the sole source provider of technology services for the state.

If the state were to transfer all employees and their associated technology equipment/ devices into DAS, the department would expand from an organization expending approximately \$15.2 million to one spending \$121.2



million annually on IT (total state, federal and other funding sources). The only difference between this organization and the total statewide IT organization, from an IT expenditure standpoint, is that it does not include the ICN IT costs, since ICN must remain a stand-alone entity to retain its “common carrier” status.

Approximately 550 state employees would be transferred to the DAS organization to join the 116.5 FTEs currently in the ITE department. Since the state uses a combined labor approach of state employees, augmented with outside IT service providers to deliver IT services to the departments and agencies, the new DAS organization would grow by \$65.72 million to a new total labor cost of \$75.22 million. There is no suitable space on the campus complex to house the 666.5 FTEs. We have evaluated the Wallace Building, but due to the aging facility, we do not recommend its use as it is currently under study for renovation.

We feel movement of this many individuals for a relocation would be massively disruptive and cause morale issues. This would generally significantly reduce cost savings anticipated from other sources. Therefore, we do not recommend a massive relocation of individuals and thusly do not recommend the centralized model, as illustrated under the description of the centralized approach. Based on probability of success being approximately 50% to 70% with an implementation time of approximately 30 - 48 months from start of initiation, the centralized approach is the least desirable.

Technology spending would also grow in the new DAS organization, since all IT procurement would be performed from a centralized organization under this scenario. The new IT procurement cost for DAS would grow to \$28.02 million from the current level of \$5.87 million.

DAS would become responsible for management of all the equipment and devices associated with the personnel transferring into the department. The table below shows the current and post-centralization number of devices that DAS would manage.

Windows Based Devices	Current	Post-Centralization	Change
Windows Based Desktops	1000	15660	14660
Windows Based Servers	92	890	798
Windows Based Laptops w/remote access to network	85	1865	1780
Non-Windows Based Devices	Current	Post-Centralization	Change
Non-windows Based Desktops	8	27	19
Non-windows Based Servers	114	230	116
Non-windows Based Laptops w/remote access to network	5	9	4



Funding Impact: Funding would be retained in the departments and services would be budgeted and paid for through the development of service agreements with the new state IT organization. The central IT management would control the IT spend plan for all services. This model requires strong asset management, a time-accounting system, a rate-for-services catalog, accounting systems, invoicing procedures, audit procedures, a budgeting process, reconciliation processes, a skills inventory and a career planning process. With strong accounting procedures this model will meet the federal guidelines for matching funds for programs and grants.

Probability of Success and Timing Impact: The probability for a successful transition to a centralized IT organization in the State of Iowa is approximately 50% to 70% with an implementation time of approximately 30 - 48 months from start of implementation.

Cost of Implementation Impact: Program implementation cost to generate savings will be ~\$8.6M.

The calculated savings for reinvestment derived from this organizational approach would be approximately 10% to 14% annually, over a 5 year period.

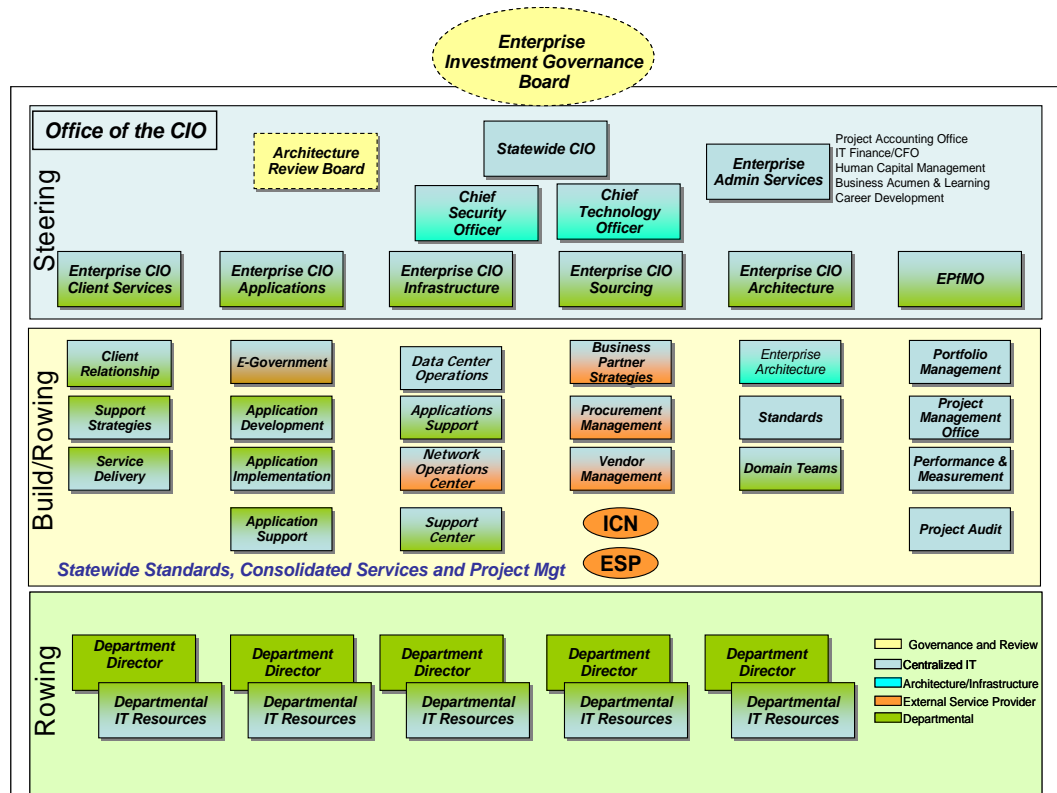
Estimated rate of return: ~\$26.1M savings at a 306% rate of return

Service Provider Model

This alternative defines IT as a “**Service Provider**” organization consolidating common infrastructure elements of Information Technology across the state, providing common standards, clear governance of technology investments, centralized procurement of technology and services, and a clear focus on the mission-critical elements of departmental business requirements from IT.



Chapter 11:
Organizational
Scenarios and
Impact Statements



Process Impact: Centralization of all technology procurement, network infrastructure including data centers (enterprise, departmental and client servers), common applications, utilities and network management into an Office of the CIO.

Organizational Impact: A State CIO would be appointed by the governor to head the Office of the CIO and report directly to the Director of DAS (current CIO functionality) or alternatively the Governor. The Office of the CIO would provide Information Technology and Information Services common to departments, i.e. electronic messaging services (email, etc.) and data center operations. All associated common infrastructure assets, both technology and human capital, would be transferred into the Office of the CIO, including all current Departmental CIOs. Departments would retain resources needed to provide department-specific requirements (typically Application Developers). The Iowa Communications Network (ICN) should provide all networking infrastructure to include WAN, CAN, and LAN. The appropriate transfer of necessary human resources to support all networking requirements should occur the same time other IT resources are transferred to ITE. The ICN should continue to provide government's voice and video needs.

It is yet to be determined how much the DAS organization would change in terms of total IT expenditures, FTEs, outside IT services, total labor cost, IT procurement cost and equipment/device management responsibility. However, the impact to some of these areas can be estimated.



The FTE population would increase by nine (9) individuals, including the six (6) Enterprise level CIOs, the State CIO, the Chief Technology Officer (CTO) and the Chief Information Security Officer (CISO). Although the DAS organization would increase by nine (9) individuals, this does not represent an increase in the overall population of IT FTEs since these individuals would come from existing positions in the departments and agencies. In addition, some undetermined number of other IT personnel will transfer as well. Examples of these individuals include personnel associated with messaging and e-mail management, mainframe operations and network support.

Currently, it is not possible to estimate the impact to other areas of IT personnel, procurement or equipment/devices.

Funding Impact: Initially, the Office of the CIO would be funded by the transfer of department CIO funds and general funds from base operations. A common rate structure would be established for the departments to buy services from the Office of the CIO or other departments, and the departments would receive a monthly invoice for services from the IT finance and accounting group. The Office of the CIO would essentially become coordinator of IT services throughout the state. Funding is retained in the departments and services are budgeted and paid for through the development of IT service agreements. This model requires a strong governance board, asset management, a cost accounting system, a time accounting system, a rate-for-services catalog, accounting systems, invoicing procedures, audit procedures, budget processes, reconciliation processes, a skills inventory and a career planning processes. With strong accounting procedures this model will meet the federal guidelines for matching funds for programs and grants.

Probability of Success and Timing Impact: The probability of successful implementation of this model in Iowa's current environment are approximately 70% to 85% due to the ability for current departmental resources to continue to focus on departmental mission critical aspects, while gaining leverage of common infrastructure services with minimal personnel interruptions. Implementation time frames are generally 36 to 48 months from the start of implementation.

Cost of Implementation Impact: Program implementation cost to generate savings will be ~\$7.9M.

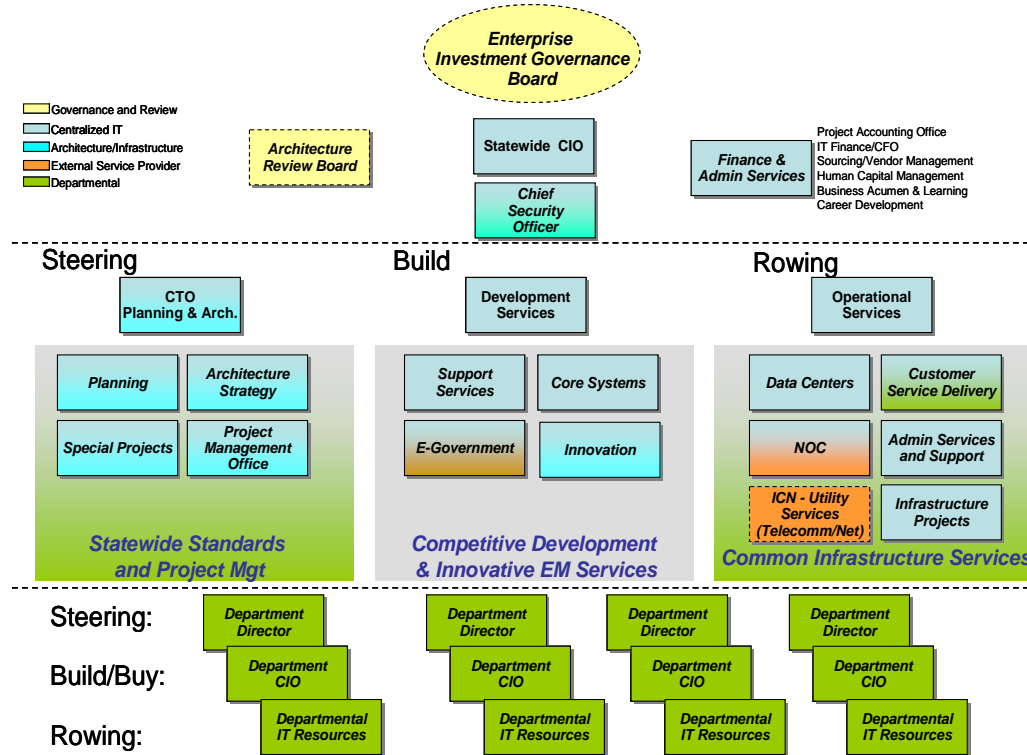
The calculated savings for reinvestment derived from this organizational approach would be approximately 8% to 15% annually, over a 5 year period.

Estimated rate of return: ~\$26.8M savings at a 339% rate of return

Federated Model

This alternative is focused on "consolidation" and "centralization" of key infrastructure elements, with most current departmental resources staying in

place in much the same manner as in today's environment. Key aspects of this model include centralized governance of new technology investments, centralized planning and procurement, and new technology buys procured to a set of standards driven by a central IT architecture.



Process Impacts: Centralization of all technology procurement, network infrastructure and common applications and utilities into an expanded Information Technology Enterprise (ITE). A State CIO would be appointed by the Governor and/or designate, and would report directly to the Director of Department of Administrative Services (DAS). The CIO responsibilities would include management of common infrastructure components, applications, utilities and data centers. ITE would provide Information Technology and Information Services related to inter-departmental communication, i.e. network infrastructure in support of the transmission of data, voice and video information; electronic messaging services; network operating services; data center operations. The State CIO would establish state-wide technology standards, chair the Governance Board, manage the State IT spend plan, and have at their disposal finance and accounting to ensure compliance.

Organization Impact: Departments would retain intra-departmental network responsibilities. Selected assets, technology and human capital would be transferred into ITE. Department CIOs would retain resources needed to provide department specific requirements. A rate structure would be established for the Departments to buy services from ITE. Departments would



receive a monthly invoice for ITE services from the finance and accounting group. The State CIO would essentially become the coordinator of standards throughout the state.

Initially, there would be no change in terms of total IT expenditures, FTEs, outside IT services, total labor cost, IT procurement cost and equipment/device management responsibility if the state adopted and transitioned to the Federated model.

Funding Impact: Funding would be retained in the departments and services would be budgeted and paid for through the development of service agreements. Current funding for ITE resources remain in place. This model requires a strong governance board, asset management, a cost accounting system, a time accounting system, a rate-for-services catalog, accounting systems, invoicing procedures, audit procedures, budget processes, reconciliation processes, a skills inventory and a career planning process. With strong accounting procedures this model will meet the federal guidelines for matching funds for programs and grants.

Probability of Success and Timing Impact: The probability of successful implementation of this model in Iowa's current environment is 60% to 70%, due to the ability for current departmental resources to continue to focus on departmental mission-critical aspects, while reporting directly to the department heads. Implementation time frames are generally 18 to 24 months after start of implementation.

Cost of implementation Impact: Program implementation cost to generate savings will be ~\$8.0M.

The calculated savings for reinvestment derived from this organizational approach would be approximately 3% to 9% annually, over a 5 year period.

Estimated rate of return: ~\$11.6M savings at a 145% rate of return

Coeur Group Recommendation:

Coeur Group recommends an immediate move to Alternative 2, Service Provider Model, over the next 36 to 48 months. A graduated approach will reduce failure of the organization transition, maximize savings accrual and provide all new technology investments with a governance structure for prioritizing technology investments. Additionally, a Governance Board, a Defined Architecture and standards are two critical areas of leverage that must be implemented to enable appropriate technology investment management and technology spending.



Chapter 12: Transition Roadmap

Chapter 12: Transition Roadmap

Experience of Other States and Federal Entities

Research on ten different states which are transitioning through various stages of either centralization, consolidation, federated approach or a “Service Provider” approach were defined. An understanding of the management styles, goals, barriers and current status are reflected in a number of the presentations provided to the different audiences for this EIP assessment.

The following depicts the general focus of three different approaches to consolidation and the states researched and relative model of current operations.

Centralized: (High standardization pressures, Business processes integrated)

Decision Styles:

- Tight coupling between business and IT executives at state levels
- Top down mandated technology decision-making

Examples:

- Connecticut
- South Dakota

Funding Model:

- Funding remains in departments
- IT Spend Plan controlled by Central IT Organization

Service Provider: (High speed, flexibility pressures, business processes adaptable)

Decision Styles:

- Different Department and IT leaders combine for specific purposes
- Enterprise-wide arrangements emphasize coordination & learning

Examples:

- Virginia
- Michigan
- Pennsylvania
- Texas
- Nebraska
- Delaware

Funding Model:

- Office of CIO funded by transfer of Department CIO funds and general funds for base operations
- Common rate structure established to buy services



Federated: (High localized pressures, Business processes distinct)

Decision Styles:

- IT works with individual departments and process owners
- Emphasis on local business decision-making

Examples:

- Missouri
- North Dakota

Funding Model:

- Funding remains in the departments
- Services paid for through service level agreements
- Centralized IT Funding remains in place

LESSONS LEARNED

How the whole transition begins is vital. Impressions and initial thoughts of the leadership team are absolutely critical in the early stages of the transition

Consistency and initial contacts play an important part in how the potential transition projects are viewed by the decision-makers.

Too many resources, time and energy focusing on the BIG FIX

Too much emphasis on big projects or giant fixes detracts from the need to do work in a meaningful and value-added manner. We needed to step back and balance the resources to focus on the hundreds of small projects that run the day-to-day operation in order to provide meaningful support to the business units. Then we needed to communicate the successful transitions as they occurred.

The specifics for individual roles, especially those of application development roles versus infrastructure and operations management roles must be clear

Weakness in the appearance of IT coverage and their ability to stay involved with departmental needs appeared to be more of an expectation than a reality. By implementing monthly performance to plan meetings with department staff changed the preconceived belief into a working transition. Setting expectations and then meeting those expectations. Where it is not shared as an expectation, or even expected, the disruption of the relationship via an interruption in department coverage creates and prevents delays, a rare effect!



The overall process for reviewing and assessing the quality of the projects is murky

Department evaluations of IT capabilities and quality are always different because IT is supporting both the needs of the State and the needs of the Departments. One of our goals for 2005 is to create a balanced scoring mechanism and get it implemented.

Virtually all of the Department's expectations and values will be driven by their past and their version of that truth

Understanding how the department worked together in the past may determine how well they work in the future, but will greatly drive how their definition of "partnership" gets defined. Executive sponsorship coupled with open dialogue has assisted us in bridging the gap in expectations. We have created a feedback forum to address issues before they become problems. This took more than a year to iron out.

Creating and then using stability to add value through better focus

IT needed to step back and focus on simple things done in a basic way. For example, the structure of the IS department truly shaped how much IT can help its user by adding value. It merely makes sense to have the IS group mirror and understand the respective business lines in a well-defined and shared manner. This understanding is rooted in the business line's key opportunities, challenges, and priorities.

Too much moving and shifting definitions of working together

Frequent and "regular reviews" of actual versus planned were truly needed. These sessions were not just the "team," but should be a means to recognize, revise, and reinforce the performance of all involved plus those affected... there must be action tied to these reviews.

It is critical to have a good understanding of the balance between cost, value, and price

Value and cost benefits within the project varied too much, were dependent on the individuals, not the process, and our people were encouraged to chase their own flavor of choice. The establishment of an enterprise governance board was critical to getting our arms around this dilemma. The board set priorities and demanded accountability for approved projects.

It is essential to always be building involvement and commitment to a satisfactory end



We had to regroup and insure that we maintained business unit managers involvement throughout the entire process, not just the beginning and the end. Their intimate involvement has been critical to the success of each transition effort along its entire length.

The effort must always focus on developing high quality input and responsibility to the outcome

Business unit managers must drive the quantification process for benefits, results, etc... The appropriate level of business manager should be directing this expectation. The IT project management office must translate these business expectations in to measurable values to be exercised in the testing and implementation phases of each project

Specific and prompt feedback to business managers regarding business rational, design intent, as well as implementation plans, not just mere casual conversations

We needed to be more formal in the method of communication. IT was instructed by the governance board to provide “pushback” as well as support to the businesses about the features, benefits, and capabilities of the infrastructure and the application...this is their job.

There must be a critical and defined focus to the technology planning and design process

We did not initially recognize the difference in support requirements when going from a departmental support organization to an enterprise support organization. Therefore, I would recommend that emphasis must be placed on the whole in a manner that drives, supports, and loops back to the value creation and delivery effort throughout the whole.

It is essential to promote consistency and process in standards and value creation.

We needed to conduct a complete inventory so that we understood how to implement a more simplistic approach to consolidating assets, processes, and procedures. I would suggest that you emphasize simplicity and flexibility by practicing the effort in a way that supports architectural standards and balances costs with value in a genuine way. Real efforts should be made to reduce the number of technologies and required platforms.

There must be a deliberate effort to build efficient systems for an even more realistic and efficient future.



We found that every point of contact for vendors to sell technology into the State was another means to driving complexity into our enterprise. Distinct pressure should exist to make systems more modular and improve connectivity. There should also be more and better strategic thinking to develop and manage database structures.

A vital part of the effort is to always be obtaining commitment and support

Getting people to truly work together was a major and on-going challenge. We found that it is more than a steering committee and the rewards plus the consequences should be shared across departments. The Governor and her direct reports must be on board with the vision and mission.

Put the emphasis on process and proven software

Attention should be paid to revising processes rather than the software. Preference should be given to proven software rather than customized software. IT likes to implement new software and business managers need to evaluate if new software is really needed. We have found that in many cases a simple change in procedure eliminated the need to procure new applications. These differences should be evaluated frequently and carefully!

Drive improvements in IT as a daily way of doing business

We were almost a year into the transition before we published our operational standards. There must be distinct and constant improvements in the operational productivity. Too many dollars are spent on operations and maintenance to prevent new development from even being considered!

GENERAL RECOMMENDATIONS

Departmental experience and functional experience are different.

The purpose of functional expertise or department specific knowledge is to lower risk and increase the probability of a successful implementation. It is vital for credibility and client building to recognize that being able to know the health services is different than transportation services. In addition, not being able to understand this distinction or similarities usually drains credibility or loyalty.

“Little things mean a lot”

Avoid making mistakes and asking for exceptions to the overall process. Small elements such as showing up late, asking for forgiveness on a missed



assignment, having the wrong people at a meeting any, and all of this, will all affect the relationship. Document expectations and meet those documented expectations, publish a scorecard.

Assessing people and their talents and fit for a potential project is crucial

If people make the ultimate difference than inexperience can be devastating. Each meeting is an assessment process the department will focus on tactical questions about how the team evaluates their business need. Whether the whole team comes in person or if the team is represented by one person the meeting is an assessment of the team's capability to provide a solution.

Communicating about what to do is key

Language is the key barrier to good dialogue and relationship managers need to understand the business units jargon regarding "phases, culture change, value-added, etc." The business unit managers want to know that you understand what they must do to achieve results.

Measure three times and then cut once (Carpenter's motto)

A vital part of the relationship is to anticipate or prevent problems rather than show how rapidly they can be fixed. Despite positioning, the solving of problems usually means a variance or something we could not manage, predict, or forecast. Next, getting feedback is usually best derived by asking for the feedback, and in some cases, laying out the work for feedback in a formal way. This proactive part to preventing difficulties and giving the department manager "the heads up" usually builds equity for the process and buys valuable time.

General Guiding Principles for Implementation of the Transition Plan

1. Creating & enabling leadership at every level:

Senior personnel must lead to clarify ambiguity, decide with imperfect information, achieve progress amid numerous distractions, build trust among strangers, and enhance team communication among individuals.

2. *Becoming technically astute:*

Periodic experiments, prototypes, and speculative, analytical configurations test an organization's ability to detect vaporware (false IT products) and re-engineer systems.

3. *Creating an information sharing culture:*



Senior IT staff members reinforce that complex solutions are best solved by collaborative performances.

4. Developing rapid learning:

The pace of technology change and application requires constant and continual learning.

5. Encouraging and rewarding prudent risk-taking:

Change is inherently risky; encourage sensible risk-taking with the understanding that some failures are bound to occur.

6. Focusing on business relationship management:

Although agile IT organizations have cultures of awareness, learning, and information sharing, knowledgeable IT organizations stay dynamically aligned with their departments business. CIOs recognize business' changing nature and appoint specialists such as Business Relationship Managers (BRMs) to facilitate close business/IT relationships.

7. Gaining relentless execution:

High-performance IT organizations meet their financial, process, employee, operations, transition, portfolio, and risk commitments and expectations on time and on budget.

8. Having meaningful measures of work:

Multivariable metrics (money, time, resource improvement, maturity, increased customer satisfaction, etc.) must be used to comprehensively capture and communicate progress and value.

Starting Points

Step 1: Define business problems and measurement requirements

The State of Iowa must first determine the critical problems with the current Information Technology organization, its process and technology utilization. The purpose of the EIP assessment has been to define many of these areas at a high level and understand the gaps in deploying cost effective and enabling technology for the departments and agencies.

A task level implementation plan is the next step to developing the detailed roadmap for each of the defined programs and process changes which will be part of the organizational transition to a Service Provider model based on the Governor's recent directive to initiate movement to scenario number 2.

Step 2: Perform measurements



Establishment of goals, transition team charter and measurements for each program is essential. This is accomplished by: 1) establishing required service goals for each program activity, 2) comparing measured results to goals by gathering and measuring all data results to goals and 3) reporting the comparison in an easy to understand and actionable fashion to appropriate user/stakeholder personnel. Sharing this data across the enterprise is an excellent way for management to communicate and ensure the customers' voices are heard and answered.

Step 3: Examine the measured results

Examine measured results against goals to determine areas for improvement by: 1) examining all results for nonconformance, 2) reviewing nonconformance results for root cause determination and 3) using root cause determination to feed the correction process. Iowa should entertain the concept of an independent audit to examine results and ensure process integrity.

Step 4: Document and correct

Once a root cause is established, corrective action can be determined, documented, and implemented. The corrective action should be reported to all participating parties.

Step 5: Guide

After successful corrective action implementation, the departments and impacted IT groups must work together to continuously guide the process. This helps ensure compliance and holds gains achieved through the corrective action process. Recent process changes should be closely monitored for at least 90 days or until all stakeholders are satisfied the changes implemented will continue as intended.

Change Management

The following are the major Change Management Components:

- Develop systematic process for change
- Manage business processes, technology and organization (people)
- Determine if enough energy for change is present (if not create it)
- Determine size of the change effort
- Determine stakeholder commitment
- Select a Change Champion
- Prototype the organizations response
- Build the change response into management process

A formulated plan provides planning, definition and implementation of transition management. Employing change management methodologies and



tools that address definition of strategy, understanding process improvement requirements implementing those requirements will enable development of organizational capability to deliver value. Once Strategic Direction is set, the operating model is defined, then structure, functions, tasks and skill sets can be defined that will aid in obtaining the advantages desired by the change.

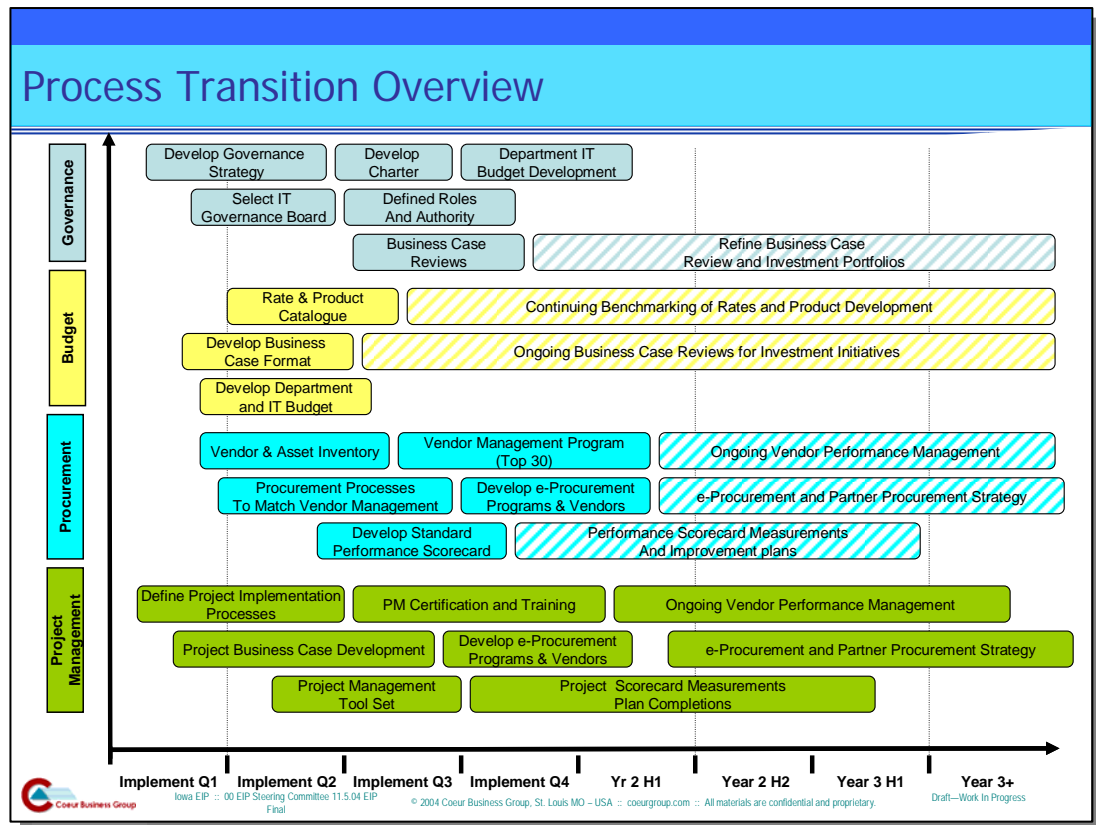
Transition Roadmaps and Implementation Plans

Process Transition Roadmaps:

Each of the defined process roadmaps provides a high level transition and implementation plan direction. Each category for transformation is described in the vertical axis in the chart below. The processes include: Governance, Budget, Procurement and Project Management. These specific processes are critical to transition, but more so are the key elements in deriving cost reductions.



Process Roadmap:



Governance Processes: Categorical funding for public-sector programs creates unique barriers for senior government executives. Deploying an effective governance process can determine cross-organizational information value and cost, maximize agility, minimize duplication in information collection, and reduce functional duplication of IT infrastructure.

The governance process first defines a Governance Board. This board provides the management of and approval for business case-based projects initiative requests.

Once the Governance members are defined, then the Governance Charter must be written, roles and responsibilities of each member and the board must be drafted. Authority levels are determined and any required code and legislative changes are addressed.

Budget Processes: The IT budget process must be initiated within each department. A common budget format must be defined, and tacking and reporting processes put in place to capture and manage the allocation of funds and the technology spend.

Procurement Processes: A vendor inventory is the initial step. A spend analysis of the current spend patterns and definition of which IT suppliers are

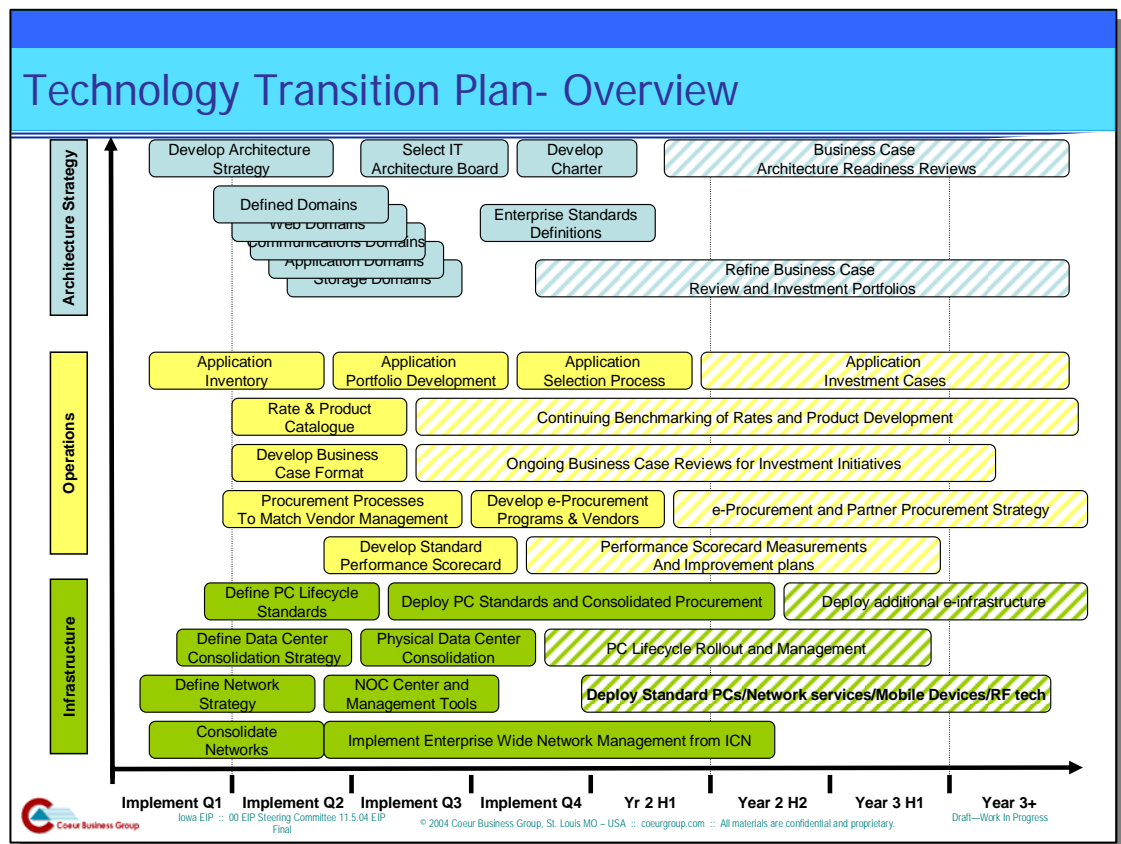


Chapter 12:
Transition Roadmap

providing services to each department will be required. Procurement processes and relationship management with each of the top tier vendors will be a required task. A push toward e-procurement for commodity products and services will enable cost savings and procurement response.

Project Management Processes: Project processes will need to be defined with the reporting of project status as a norm. Early in the process will be the development of a Business Case format for requests for funding allocation to a specific project. Additionally, one of the requirements for success in Iowa will be the development of certified project managers.

Technology Transition Roadmap:



Develop Architecture Strategy: The initial steps in developing the Architecture Strategy are to develop the charter, goals and guiding principles. Develop a charter, process and procedures for the establishment of a Statewide Enterprise Architecture Steering Committee (SEASC) for defining, developing and implementing a set of statewide common infrastructure standards. The development of a common IT infrastructure is a requirement defined by numerous department directors and staffs. Enterprise Architecture is a basic requirement which will enable Iowa to better define technology requirements, spend wisely to maximize investments and reduce lifetime cost of ownership for technology.



Standards identification and adoption occur at multiple points during Enterprise Architecture (EA) development. Technology watch and technical domain groups contribute to the identification process, while standards selection falls to subject-matter experts (SMEs). Standards are also identified by public interest groups and non-profit organizations for common information-sharing needs among governments and government agencies to exchange specific information such as driver's license information, benefits, and criminal history records. Enterprise Architecture provides criteria and guidance for standards selection; together with enterprise program management and governance, it is a key discipline in managing adoption of and compliance with selected standards. Standards include both industry and government standards and preferred products that are in alignment with the Enterprise Architecture direction. Proactive identification and adoption of standards result in alignment of program and policy goals with a streamlined process to adopt technology standards.

Operations Transition Elements: From an operations standpoint, current processes must first be defined and documented to ensure that a clear understanding of current linkages to the business process is acknowledged. A first step in defining operations savings is to define duplication of effort which might be evident across departmental functions and boundaries. A full applications inventory should be conducted to define, business processes/application usage patterns, location usage patterns as well as uniqueness requirements across department and functional boundaries. Once the application inventory is completed, portfolios of applications can be defined, duplications addressed (each with a transition plan) and further selection and prioritization of move forward applications selected.

It will be important to define the application selection and procurement processes to ensure governance of application investments are now in line with the application portfolios. A business case format must be developed to provide the appropriate format and process for bringing requests for new applications to the Architecture Review Board to ensure compatibility with the Architecture Standards being put in place. Further transition will enable product and service catalogue updates which call out the current set of Information Technology products, services, rates and service levels.

Infrastructure Transition Map: To initiate the infrastructure transition, an inventory of the current technology assets must be developed. Hardware, network components, desktops, etc. must be identified, configurations defined and documented and total asset value determined. Once the current inventory value is known, a comparison against replacement value should be determined. This will enable a "Lifecycle" value determination for budget planning purposes. Data centers and network consolidation must be planned and executed with the highest levels of detail. Operating procedures, operational software and revision levels must be known as well as an application tools inventory.



Chapter 12:
Transition Roadmap

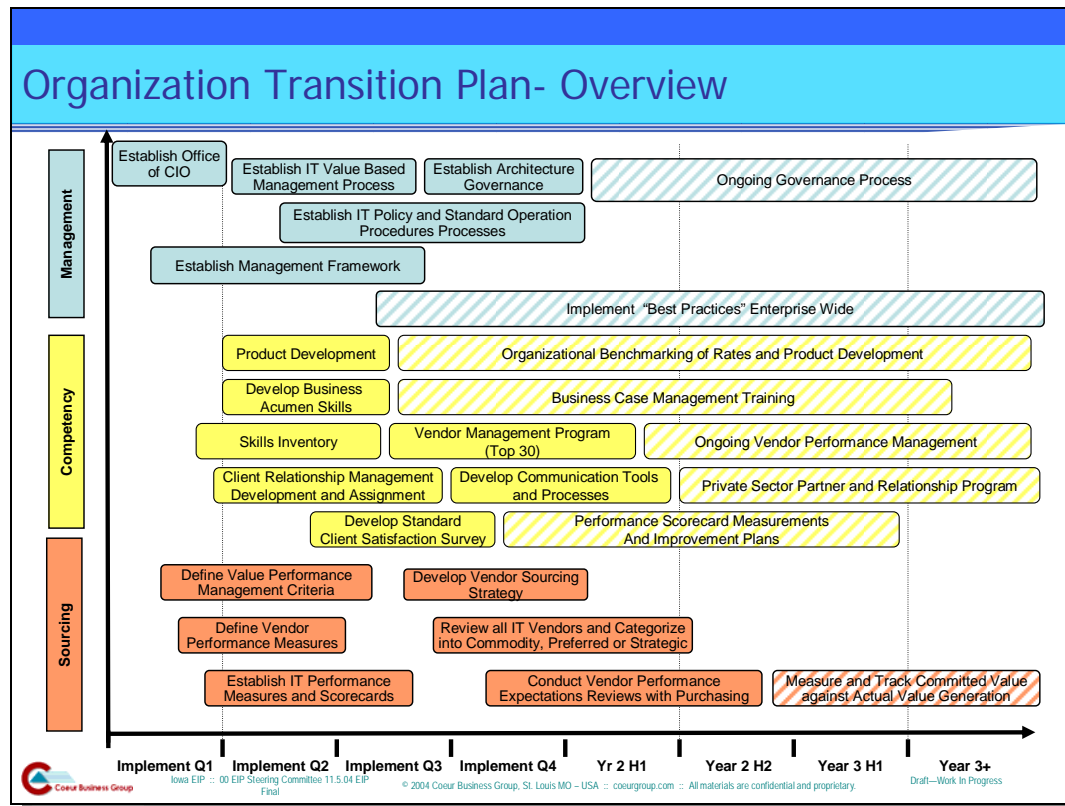
Document a format for establishing a move to a highly standardized statewide desktop environment in order to initiate a “Lifecycle” program to replace and cascade 1/5 of the desktops each year with a centralized focus of procurement and vendor relationship management functions managing the replacement cycles. Additionally, establish a 3-7 year cycle on all servers following the same process. A lifecycle program improves state purchasing power and license management. It enhances information sharing and staff productivity via common and current PC tools. Additionally, it promotes basic IT service provisioning as a “utility” across the state. Utilize expertise in vendor management and supplier scorecards to gain value from purchases.

Adaptive organizations are capable of flexible responses to changing business conditions and competitive actions because they utilize change scenario planning methods to anticipate, gauge, and plan for multiple likely events. Scenario planning techniques map processes and reporting relationships to information flow requirements (i.e., storage, data integrity and networks) and levels of organizational sophistication (i.e., culture, market acumen and technology). Each intersection is analyzed with regard to levels of change required to adapt to likely events (i.e., readily ported, modification required and/or scrap). Adaptive organizations routinely determine how their governance structures, business processes, and technology architectures must evolve to accommodate each change scenario and build their plans accordingly.

Once these items are planned and executed, any physical move can be planned, and project teams assigned. Vendor collaboration is key in any physical move. The current vendors must be part of the planning process for a physical move plan.



Organizational Transition Maps:



Management: Establishing the central authority is one of the first transition elements for an organizational shift/transition. Establishment of the Office of the CIO is recommended as the starting point. Identification and selection of the transition team leaders, as well as job descriptions for each leadership position must take place early in the development of the Office of the CIO.

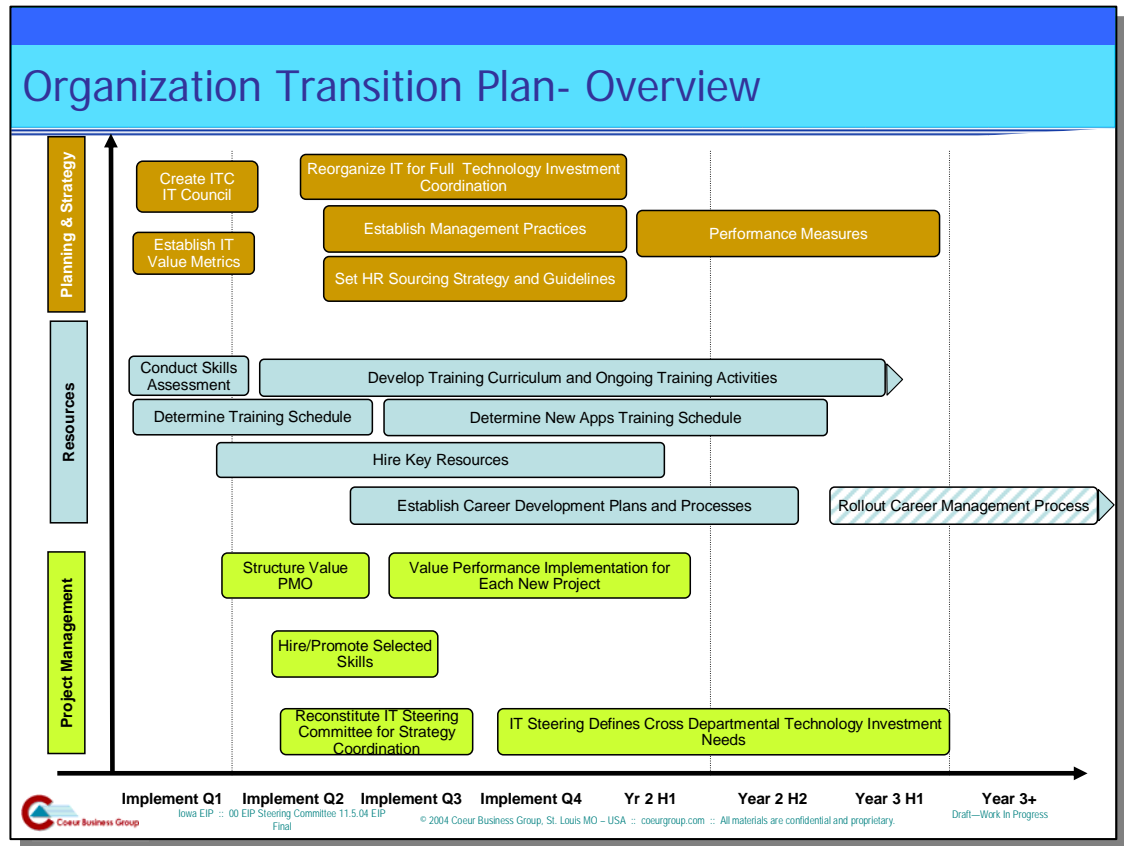
Establishment of the CIOs Executive roadmap will cover critical areas such as defining management commitment, defining the governance processes, determining the management principles and the management framework.

Competency Transition: One of the important areas of a transition to any of the alternative models developed for this EIP assessment is the understanding of the competencies and capabilities currently within the Information Technology Workforce. A focus on a complete Human Capital Management approach looks at current skills and competencies and defines those required for new and emerging functions. A full skills inventory will be required before re-skilling and training efforts are planned.

Sourcing Strategy: A sourcing strategy defines what functions, competencies and skills are to be core to the State of Iowa's Information Technology organization. For those skills and competencies, and/or products and services deemed non-core, decisions must be made on how to fill the required delivery

to the departments. A collaborative sourcing strategy with Information Technologies “Partnering Suppliers” is an essential part of developing the sourcing strategy. This must also be in full concert with Procurement and contain performance measurements for vendors who are chosen to be “Partners with the State.”

Organizational Transition maps (cont):



Planning and Strategy: The planning and strategy function within the state is currently one of the opportunity improvement areas. Creation of a technology review council with a clear charter is a first step. Definition of roles and responsibilities for this Information Technology Council must be defined. The general principles for the Information Technology Council are to review new and evolving technology and make recommendations to the Architecture Review Board. Additionally, review of current and development of new management practices and common operational procedures are completed by this council via sub-committees or teams.

Resources: A skills assessment is essential in determining the current capabilities and any gaps defined to transition to a new model of operations. A training schedule and plan becomes the outcome of this resource plan. Human capital will continue to represent a significant public-sector risk for Iowa as the



economy begins to rebound, while an increasing percentage of Iowa's Information Technology employees become eligible for retirement or flexible work arrangements. Initial efforts to address the human capital risk will focus on skill-set assessments by mapping current skills and exposures to future needs. Iowa's central CIO should assess the states key, high-potential talent pool at least once every two or three years. Doing so provides a disciplined approach for line managers to better assess talent, discuss differences, and have a dialog about development progress and remedies. It also enables managers to better enact employee retention strategies mapped to organization and individual needs.

Project Management: IT projects are the mechanism that turns an organization's strategic business and technology vision into reality, and project management is the control mechanism that shifts the odds of successful change in the organization's favor. Our research findings are that in too many public sector organizations, the state of project management capability (as demonstrated by high project costs, poor schedule performance, and business irrelevance) is astoundingly absent. In the State of Iowa, we found that the project management maturity is relatively low and is a critical component of Information Technology which must have rapid improvement.

Although we recommend a transition to a selection and training of resources for project management, certification by itself is no guarantee of improved business performance (e.g., wrong projects can still be funded, low-value projects can remain active). We do however believe as a major focus of the project management category of Iowa's transition investment in project management skills demonstrates a firm commitment to solving project performance issues.

Again, a first step is to define the project management currently in place to determine certifications, experience levels (even of uncertified project managers) and develop a selection and training schedule of resources ready for assignment.

A fully-trained and certified project manager (e.g., project management professional) will more likely be able to establish realistic project performance baseline measures (e.g., budget, schedule), identify and escalate issues, negotiate corrective actions and sensibly navigate political and cultural situations. Continued reliance on inexperienced project managers and the use of ad hoc methods and processes may inadvertently provide failure points and damage corporate relations with employees or, worse, with trading partners and customers. The focus for transitioning to a Project Management Office with certified project professionals not only increases the workforce value, but also better ensures projects meet cost/schedule performance goals without depending on personal heroic efforts.



Appendix A: Department Executive Critical Success Factor Interviews

Appendix

Coeur Group interviewed the following department Executives and selected staff regarding the critical success factors, key critical drivers and barriers to success.

Department	Last Name	First Name	Completed
Blind, Department for the	Chong	Curtis	X
	Harris	Allen	X
Civil Rights	Pothast	Ron	X
College Student Aid Commission			X
	Messer	Adam	X
Commerce - Banking	Huang	David	X
	Gronstal	Thomas	X
Commerce - Credit Union	Schau	Toby	X
	Forney	James	X
Commerce - Insurance	Burke		
	Boston	Angala	X
	Harder	Alan	X
Commerce - Utilities	Cooper	Judi	X
	Munson	Margaret	X
Corrections	Vandewall	Kevin	X
	Baldwin	John	X
Cultural Affairs	Johnson	Roger	X
	Walker	Anita	X
DAS - Core Services	Anderson	Mollie	X
DAS - ITE	Uhrin	Mark	X
	Sperry	Sharon	X
	Tritch	Lorrie	X
Economic Development	Dursky	Don	X
	Lawyer	Mary	X
Education	Stilwill	Ted	X
	Tack	Lee	X
Education - Vocational Rehabilitation			X
	Nicoll	Steve	X
Elder Affairs	Haverlan	Mark	X
	Anliker	Greg	X
Ethics & Campaign Disclosure	Hudson	Karen	X
	Smithson	Charles	X
Governor's Office	Gleason	Dr.	X



Appendix

Governor's Office on Drug Control Policy	Wiggins Van Hafften	Dennis Marvin	X X
Human Rights	Moore White Roeder- Grubb	Dick Ruth Laura	X X X
Human Services	Mosena Concannon	Steve Kevin	X X
Inspections & Appeals	Lindsey Zylstra Mclaughlin	Heather Bev Tim	X X X
Iowa Communications Network	Bacino Williams Gillispie	Mike Kathy John	X X X
Iowa Finance Authority	Tamontina Noland	Michael Julie	X X
Iowa Law Enforcement Academy	Paeth Westfall	Peter Penny	X X
IPERS	Schwartz Mueller	Leon Donna	X X
Dept of Management	222 Eisenhauer	Cynthia	X X
Natural Resources	Vonk Naples	Jeff JoAnn	X X
Parole Board	Key, JR Menadue	Clarence Jerry	X X
Public Defense	Zirkelbach Quinn	Gen. Mark Lesa	X X
Public Employment Relations Board	Riordan Bolte	James Susan	X X
Public Health	Anthony Jones	Dale Mary	X X
Public Safety	Techau Grund	Kevin Larry	X X
Revenue	Ralston Jacobs	Mike Richard	X X
Revenue - Iowa Lottery	Brickman Haltermann	Ken Evelyn	X X
State of Iowa Library	Wegner Haigh	Mary Nancy	X X
Transportation	Gast	Steven	X

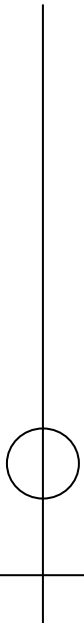


Appendix

	Richardson	Nancy	X
Veterans Home	Hellstern	Robert (R.J.)	X
	Mathes	John	X
Workforce Development	Barto	Jane	X
	Peters	Judy	X
AFSCME	Martin	Carl	X



Appendix





Appendix B: IT Operations Maturity

Appendix

Operational Maturity is measured across eight (8) operational practice areas and based in the Control Objectives for IT (COBIT) model. This was a self-assessment by department and then rolled up to an enterprise-wide assessment. Following is a description of each of the areas assessed.

STRATEGY FORMULATION AND PLANNING

This area addresses the processes by which IT opportunities are identified, IT strategies are developed, and IT plans generated. The major topics are:

- Business linkage/opportunity evaluation
- Strategy formulation
- Plan development
- Baseline planning
- Planning process
- Management committees and planning functions

HUMAN RESOURCE MANAGEMENT

This area addresses the processes by which IT personnel are planned for, hired, trained, compensated, and evaluated. The major topics are:

- Position definition
- Recruiting and hiring
- Training and development
- Human resource planning
- Compensation and benefits
- Performance appraisal
- Career development

ADMINISTRATIVE MANAGEMENT

This addresses the processes by which the IT organization is managed from an administrative and financial perspective. The major topics are:

- Internal audit
- Management reporting
- Expenditures
- Communications
- Documentation
- Budgeting
- External audit
- Financial control



PRODUCTION SERVICES MANAGEMENT

This addresses the processes by which the production computing environment (e.g., data center or server operations center) is managed. The major topics are:

- Inventory management
- Workflow management
- Resource monitoring
- Systems integrity
- Protection access control
- Service management
- Performance management
- Resource management
- Stability management
- Operations/review audit

END USER COMPUTING

This area addresses the processes by which end-user computing technology is acquired, managed and supported. The major topics are:

- Business planning
- Technical planning
- Financial planning
- Resource investigation
- Resource procurement
- Technical operations
- User support operations
- Technical performance
- Service delivery performance
- Business performance
- Technology management
- Personnel management
- Business asset management

USER/IT INTERFACE MANAGEMENT

This area addresses the processes by which users and their needs are brought into the IT planning process. The major topics are:

- IT opportunity identification
- Information system proposal process
- Review and approval process
- Business user participation



Appendix

- Project management
- Communication programs
- Migration
- IT management committee approaches
- Defined decision criteria
- Integration to planning/budget

COMMUNICATIONS SYSTEMS MANAGEMENT

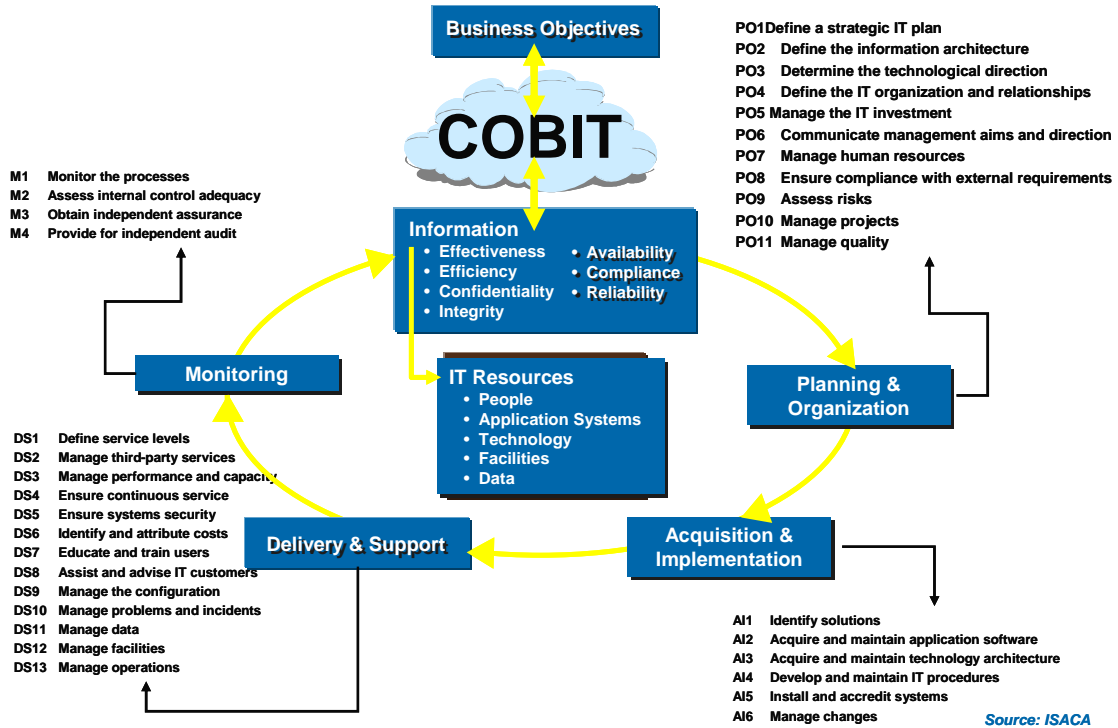
This addresses the processes by which the communications environment is managed (e.g. telephony and Wide Area Networking). The major topics are:

- Communications System Operations
- Environment Stability Management
- Installation Management
- Configuration and Inventory Management
- Documentation Library
- Security/Integrity
- Availability Management
- Resource Management
- Audit

SOURCING

This addresses the processes by which sourcing and vendor management are practiced. The major topics include:

- IT Sourcing Planning
- Supplier Management
- Supplier Categorization and Metrics
- Documentation Library



The assessment was based on a self assessment. Each operational practice was assessed across the following criteria:

Performance — *Conducted in your organization*

Formality —

- Standard = Departmental IT Policy
- Measured = Goaled
- Metrics = IT Scorecard

Coverage — *% of impact across your department*

Functional Quality — *Usability of process*



The Effectiveness and Usability

The table below shows the relative operational maturity levels across the state, sized by department IT spend. The maturity levels across the state primarily reside in the larger departments, indicating an opportunity for the state to benefit from this maturity via the shared services model, as these resources can be utilized by all department sizes.

The following chart depicts the relative maturity levels and action priority for each of the eight operational areas. The departments are listed by department size, with the blue being large departments, defined as having greater than \$3 Million in IT Spend. Next are the medium departments in purple, defined as those with IT Spend between \$3 Million and \$700 Thousand. Finally, the small departments in pink represent those with less than \$700 Thousand in IT Spend.

The red/yellow/green across the Operational functions depicts the areas of priority, with red identification indicating the higher priority for action. This signifies a need to drive knowledge across the enterprise. Each presented model uses senior management across the enterprise to leverage this knowledge.

Department	Strategy Formulation and Planning	Administrative Management	Human Resources Management	Production Services Management	EUC Management Practices	User and IT Interface Management	Communications System Management	Sourcing
Dept. 1	Yellow	Green	Green	Green	Green	Yellow	Green	Yellow
Dept. 2	Green	Green	Green	Green	Green	Green	Green	Green
Dept. 3	Yellow	Red	Red	Red	Red	Red	Red	Red
Dept. 4	Green	Green	Green	Green	Green	Green	Green	Green
Dept. 5	Yellow	Green	Green	Yellow	Yellow	Red	Red	Yellow
Dept. 6	Green	Green	Green	Green	Green	Green	Green	Green
Dept. 7	Green	Green	Green	Green	Green	Green	Green	Green
Dept. 8	Green	Green	Green	Green	Green	Green	Green	Green
Dept. 9	Green	Green	Yellow	Green	Green	Green	Green	Yellow
Dept. 10	Red	Red	Red	Red	Red	Red	Red	Red
Dept. 11	Yellow	Yellow	Yellow	Green	Green	Yellow	Yellow	Red
Dept. 12	Green	Green	Green	Green	Green	Green	Green	Green



Appendix

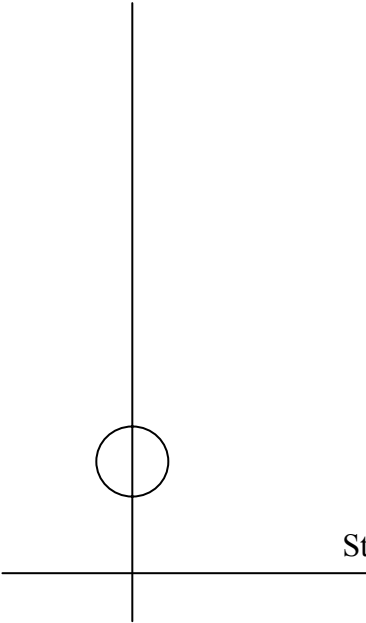
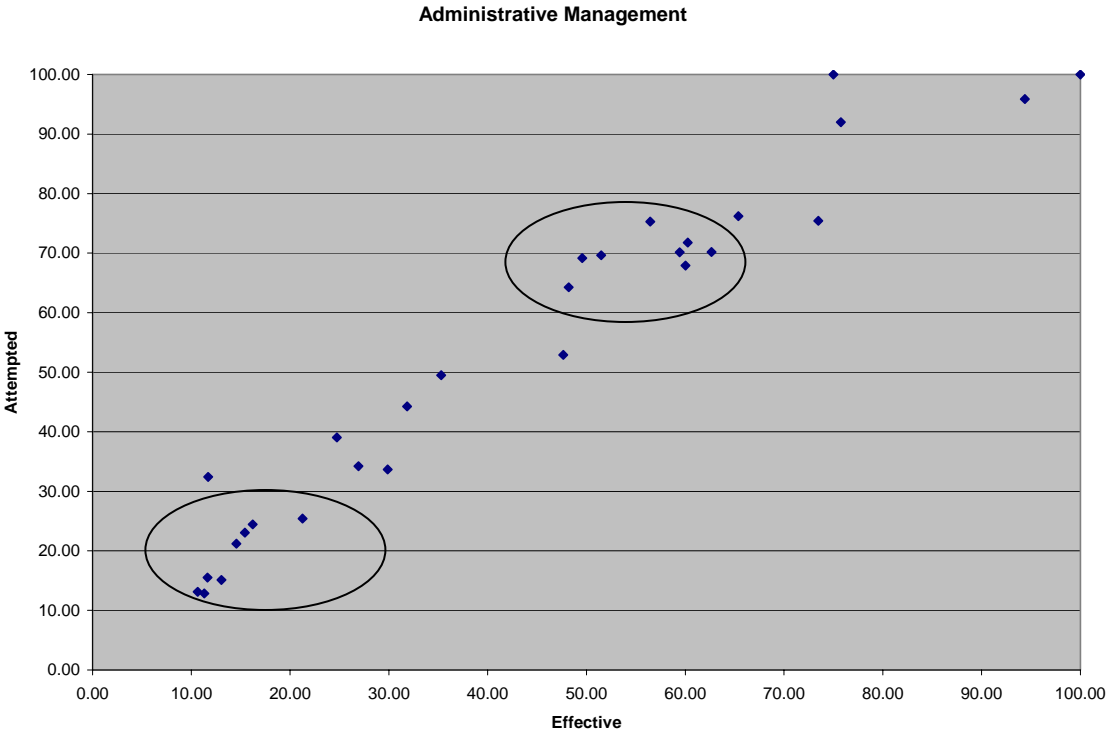
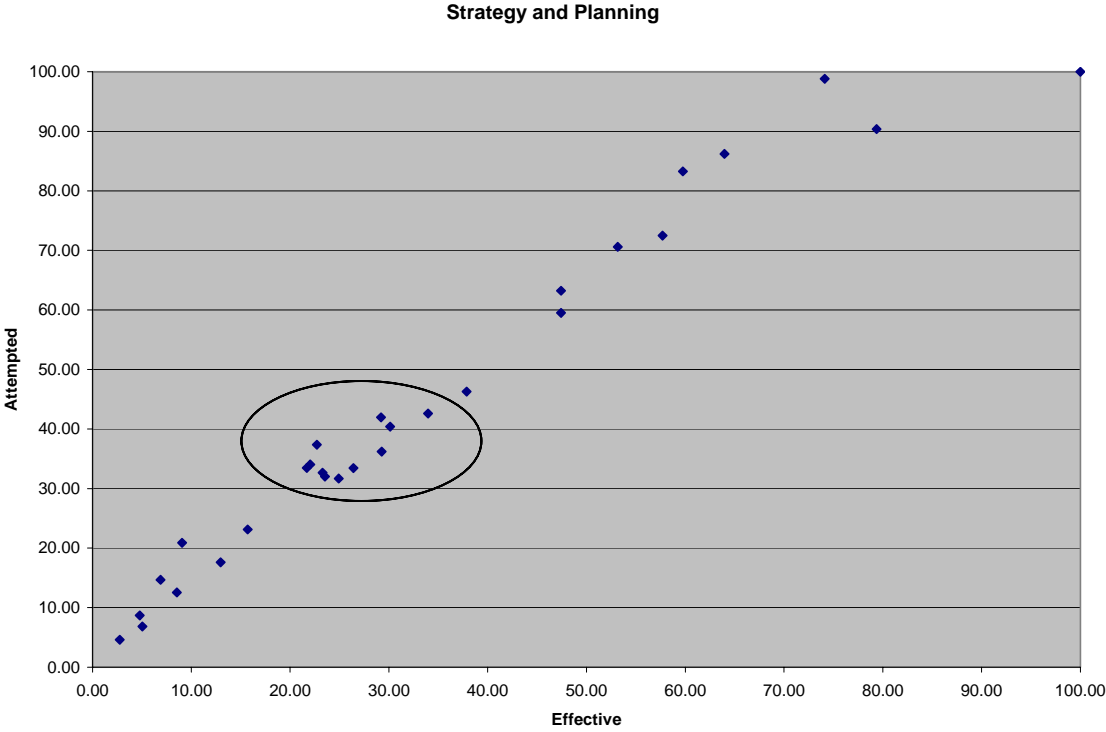
Dept. 13								
Dept. 14								
Dept. 15								
Dept. 16								
Dept. 17								
Dept. 18								
Dept. 19								
Dept. 20								
Dept. 21								
Dept. 22								
Dept. 23								
Dept. 24								
Dept. 25								
Dept. 26								
Dept. 27								
Dept. 28								
Dept. 29								
	21.69	52.48	19.59	22.07	37.26	8.44	6.36	14.00

In graphing the departments by effectiveness and efficiencies, departmental clustering is evidence of predominance on the maturity scale. Each of the eight operational areas are depicted with a dot representing each of the participating departments.



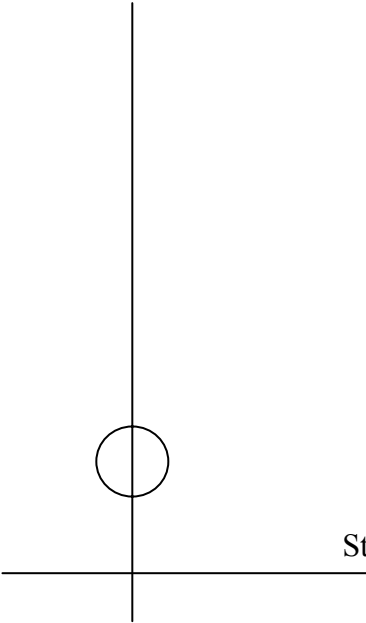
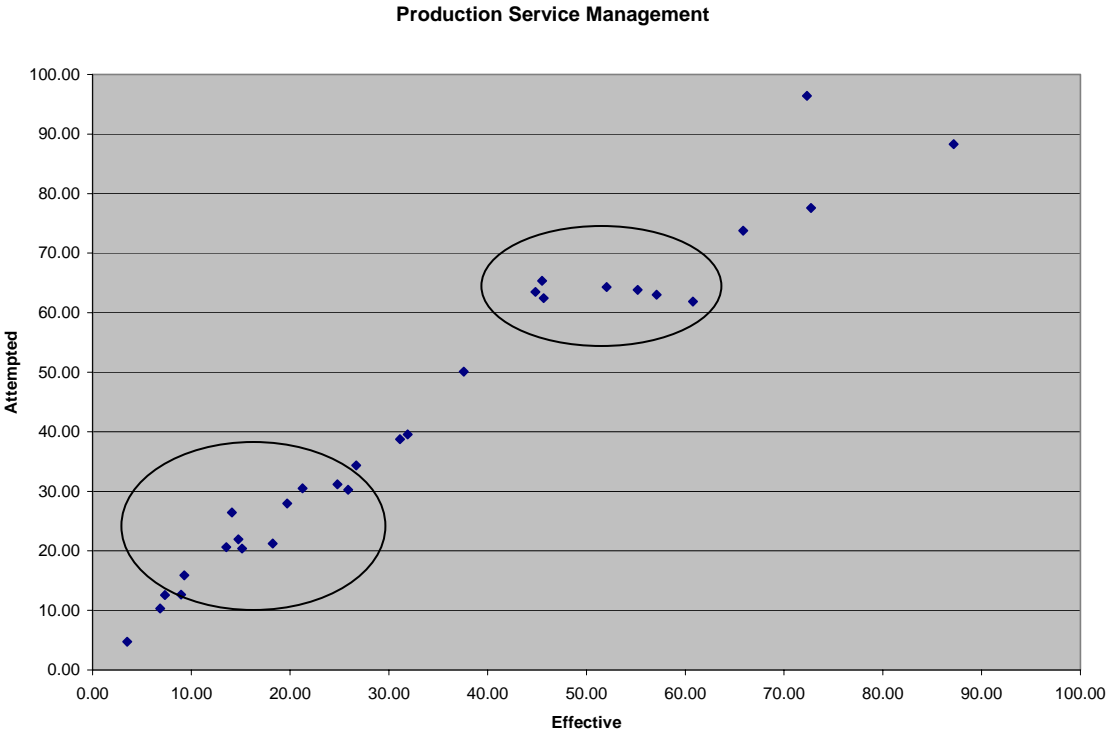
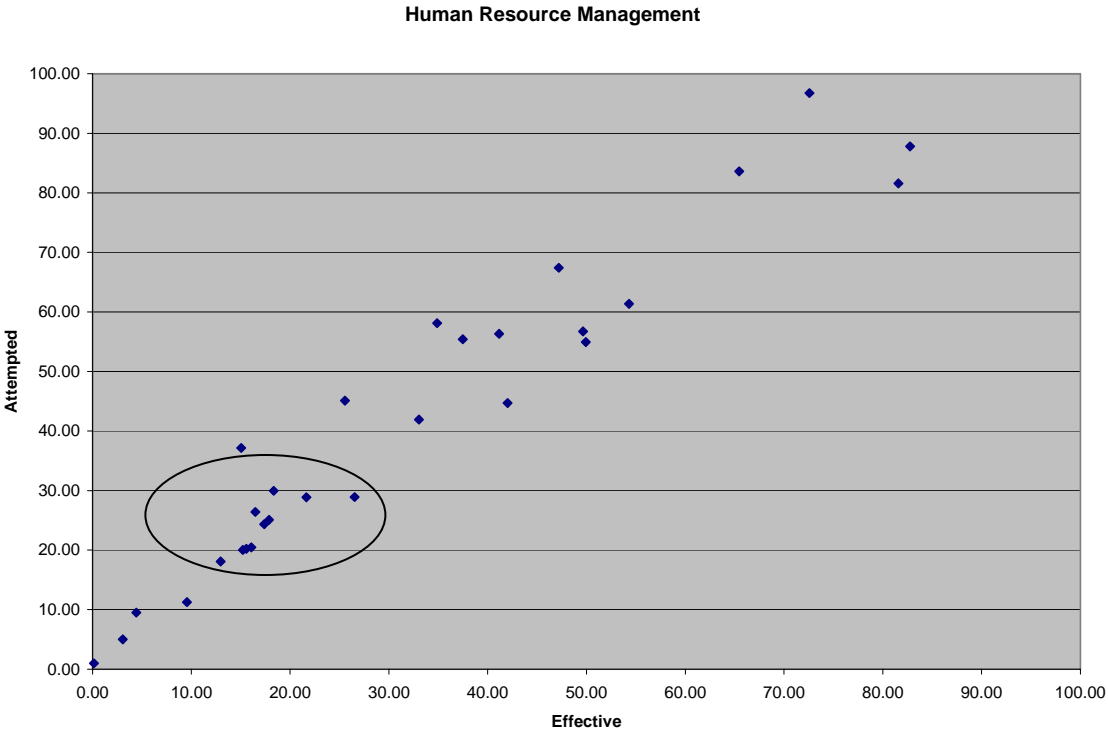


Appendix





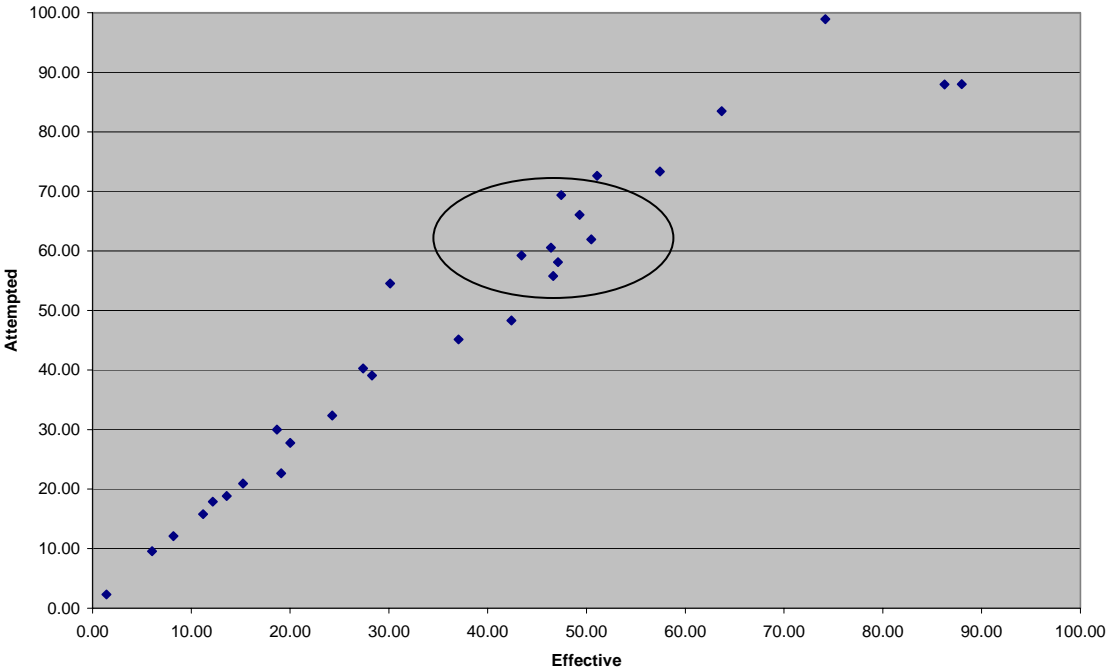
Appendix



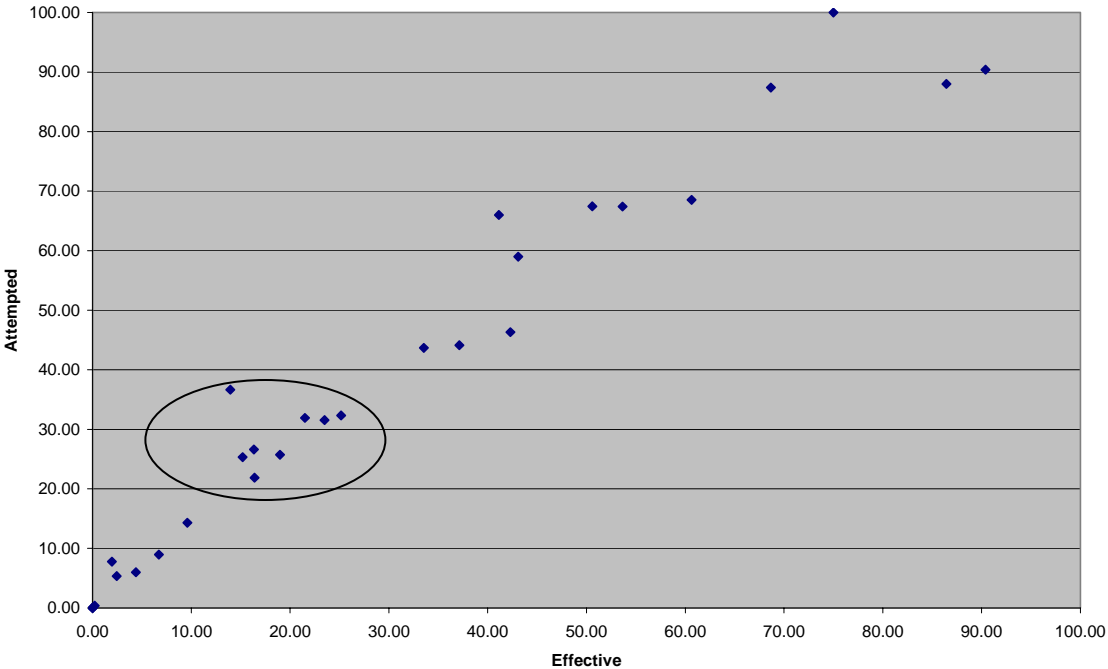


Appendix

End User Computing Practices

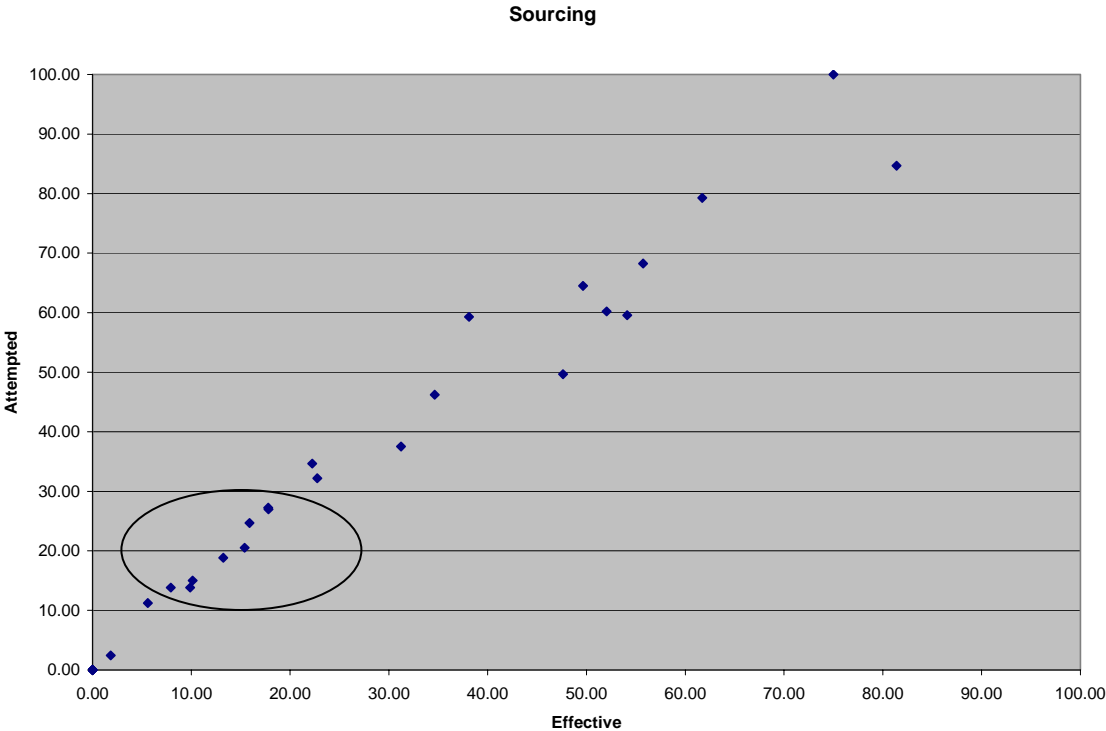
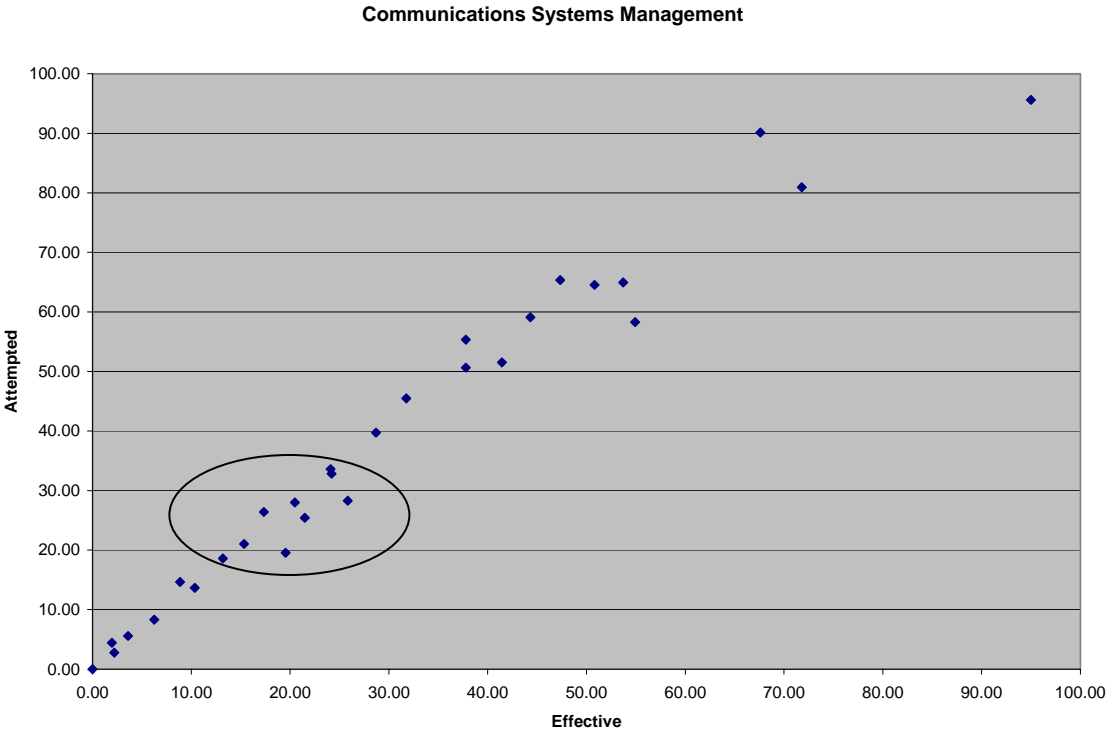


User and IT Interface Management





Appendix





Appendix C: Departmental Effectiveness and Efficiencies

The results of the Operations Master Workshops are summarized in the Workshop Results table.

In the workshop, participants were asked to consider their areas in terms of activities impacting Effectiveness (successful completion, accomplishing objectives) and activities impacting Efficiency (accomplishing objectives in shorter time, at lower cost, using fewer resources). For each, they were asked to identify:

Successes- Activities and projects that are viewed as accomplishing objectives and adding value to their enterprise.

Constraints- Issues that prevent the accomplishment of department goals. Also thought of as barriers to success.

Improvements- Activities and projects that the departments plan or wish to undertake in the near future.

Participants were also asked to define their departments' Constraints and Improvements in terms of whether their department could correct or achieve them without the help of groups outside their department, with the aid of other groups or not at all.

Following the Workshops, Coeur summarized the Constraints and Improvements into similar subject areas so that common issues and trends could be identified. Those areas are detailed in the Workshop Results table.

Results are shown in two separate Effectiveness and Efficiency sections, and topics are grouped into like subject areas within each section.



Appendix

	<i>Constraints</i>	<i>Improvements</i>
<i>Effectiveness</i>	<u>Staffing</u> * Scarce resources, not enough staff to meet project demand. * Not enough training.	<u>Systems, technical capabilities</u> * Increase use of Web to provide access to systems for state employees and public. * Improve connectivity: provide for remote offices; VPN; mobile computing; wireless; higher bandwidth; redundancy. * Implement technology-management tools such as SMS.
	<u>Funding, budgets</u> * Budget cuts. * Fiscal constraints. * Unclear departmental budgets.	* Integration/expansion/extension of data warehouse across the system. * Regular refresh of server, desktop and network technology to maintain reliability and performance.
	<u>Organization</u> * Resistance to change. * Centralized procurement process is complex and inefficient. * Undocumented business processes.	<u>Organizational</u> * Provide help desk to all users. * Extend programming expertise into business units.
	<u>Management, environment, policies</u> * Multiple, shifting priorities. * Changing State and Federal legislation. * Federal regulations.	<u>Processes</u> * Improve IT planning and management of technology platforms. * Standardized methodologies for project management, software development and quality assurance. * Improve access to and quality of financial/budget data used for internal decision-making. * Improve records management/retention processes.
	<u>Technology, infrastructure</u> * Security; Microsoft concerns. * Antiquated equipment and software. * Slow, inadequate service from some technology vendors.	<u>Planning</u> * Create (?) Improve(?) statewide IT plan addressing executive oversight, technology platform management, business continuity, etc.

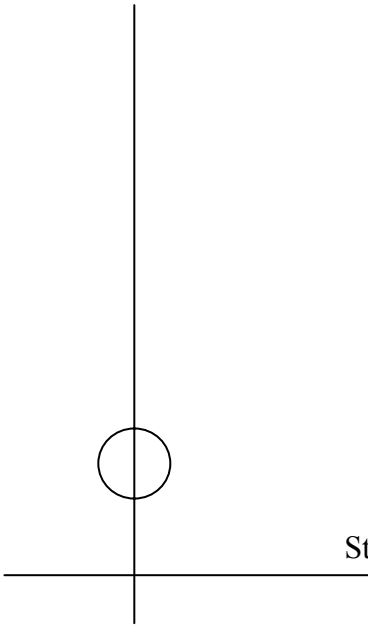


Appendix

	<i>Constraints</i>	<i>Improvements</i>
<i>Efficiency</i>	<u><i>Staffing</i></u> * Insufficient training; unable to cross train. * Not enough staff to meet demands.	<u><i>Systems, technical capabilities</i></u> * Increase use of Web to provide access to systems for state employees and public. * Security, firewall, intrusion detection, virus protection, spam email. * Increase network bandwidth. * Deploy groupware, conferencing and other collaboration tools. * Integration/expansion/extension of data warehouse.
	<u><i>Funding, budgets</i></u> * Not enough. * Budget cuts, monetary constraints.	* Regular refresh of server, desktop and network technology to maintain reliability and performance.
	<u><i>Organization</i></u> * Centralized procurement process is complex and inefficient. * Resistance to change. * Not enough project and application-sharing. * Geographic dispersion. * Lack of understanding of technology.	<u><i>Organization</i></u> * Modularize code and components. * Conduct more user training. * More effective deployment of human resources.
	<u><i>Management, environment, policies</i></u> * Multiple, shifting priorities (management & legislative). * Disjointed, decentralized IT strategy. * State & Federal regulations. * Competing resource allocations.	<u><i>Processes</i></u> * Implement and standardize methodologies for project management, software development and quality assurance. * Improve records management and retention processes. * Review all paper-based processes for potential elimination or replacement by electronic processes.
	<u><i>Technology, infrastructure</i></u> * Application inventory: complex, don't retire old apps. * Two application development models. * Fragmentation of IT across programs and divisions. * Lack of data warehouse in some areas. * WAN: inadequate bandwidth & access to remote locations.	<u><i>Planning</i></u> * Improve IT planning and management of technology platforms. * Regular refresh of server, desktop and network technology to maintain reliability and performance.



Appendix





Appendix D: Government Innovation Trends

1. Economic climate will force government jurisdictions to aggressively implement alternate funding models and leverage vendor partnership models to deliver IT services. Over the next twenty-four months, continued budget pressure and IT resource availability constraints will accelerate alternate models, with 80 percent of jurisdictions implementing either consortium or alternate funding models (i.e., infrastructure, shared services, applications, and government-2-government contract in).
2. Economic indicators and population demographics will impact public policy as never before. The critical economic issues identified by policy makers (i.e., health, welfare, education, economic development and land use) will require IT organizations to proactively integrate economic policy with an IT strategy and execution. Leading IT organizations (approximately 20 percent) will begin this integration, leading to widespread adoption of economic/IT planning processes by 2006.
3. Public sector jurisdictions will increase their emphasis on human capital management (HCM), with the e-employee providing the design point for existing human capital management strategy. The IT organizations will replace initial recruitment, retention, and training efforts with a holistic approach to human capital management, ultimately affecting sourcing and recruitment strategy. IT organizations will focus on the e-employee initiatives for costs-savings and improved self-service.
4. Homeland security initiatives will accelerate cross-jurisdictional collaboration efforts among federal, state, and local government. Although initial implementation will focus first on public health and safety, these efforts will form the basis for collaboration and information sharing across government agencies.
5. Scarcity of budget dollars will drive enterprise rationalization of solutions across each government jurisdiction. Partnering vendors will emerge as winners, sacrificing short-term profits for long term, enterprise contractual agreements. In two years this trend will accelerate, reducing the instances of customize applications and resulting in contracts enabling software reuse amongst jurisdictions.
6. Tension and mistrust between citizen's security and right to privacy will become increasingly significant by 2005. Securing IT assets and developing a comprehensive security and privacy architecture are required by 80 percent plus of public sector CIOs in the U.S. In the next two years privacy/security mandate will require IT organizations to re-evaluate existing practices in light of the physical and digital security requirements for federal, state, local, and international government interfaces.



7. Deployment of analytics and business intelligence tools will accelerate over the next 12 months. Initially, these deployments will focus on savings and cost containment (i.e. fraud reduction for Medicaid, workers compensation, human relationship, etc.), opening the door for greater use of analytics. Over the next two years, new opportunities for analytic applications (i.e., increased focus on fraud detection, citizen's satisfaction patterns for constituent relationship management, performance, cost containment, security, and legislation such as the USA Patriot Act) will expand the integration of analytics for jurisdictions and significant programs.

8. Major government restructuring will increase an emphasis on consolidation and uniformity for common business practices. Over the next twenty-four months, historical patterns of commercial off-the-shelf software (COTS) customization will give way to standardization of traditional government business processes exploiting commercial off-the-shelf software (COTS) product functionality.

9. During the next 12 months, progressive jurisdictions (about 15%) will accelerate from the current position of the agency liaison (with technical backgrounds, charged with addressing the IT needs of individual agencies) toward the role of Business Relationship Managers (BRMs -the IT "marketing" force capable of speaking both IT and program dialect). Over the next twenty-four months, Business Relationship Managers (BRMs) will evolve from unit level "IT Account Managers" to the executive level, with 50% of jurisdictions using this role in the development of program policy as well as strategic and tactical planning.

10. Over the next 12 months, budget restrictions will force the need for greater IT accountability, with increased focus on performance score-carding & best actions (not benchmarking) and documentation of results. Chief Financial Officers (CFOs) will play a greater role in the IT investment process, working with the agency and the IT staff to develop metrics, and document return on investment (ROI). Over the next twenty-four months, early efforts in changing public policy investment strategies will alter IT projects funding, primarily through effective "portfolio management strategies" and Enterprise Program Management Office's, enabling greater flexibility for cross siloed jurisdiction implementation.

11. Over the next 12 months, e-democracy will focus on local communities and the ability to obtain increased public input for policy development, with local jurisdictions looking toward e-democracy leaders for best practices and lesson learned. Over the next twenty-four months, e-democracy and communities of interest will significantly change policy and the allocation of scarce public resources.

12. Over the next 12 months, e-government services will expand minimally due to resource restrictions. In the interim, focus will be on rationalize and



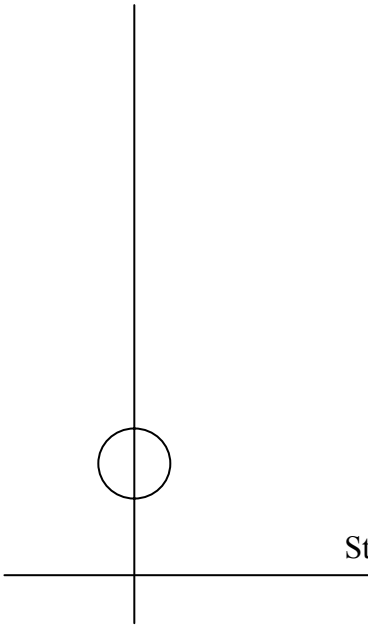
Appendix

improving existing transactions and there ease of the use across each jurisdiction. Over the next twenty-four months, data sharing, ERP investments, and consolidation rationalization will provide a foundation for re-invigorating the expansion of e-government service offerings.





Appendix





Appendix E: Coeur Business Group

Coeur Group assists its clients to deploy world class, cost-effective business consulting that addresses tomorrow's business demands and changing technology environment. Leveraging our industry research capabilities, Coeur Group assists our clients in the application of "Best Practices" and "Emerging Practices" to increase the value of business investments and intellectual property assets.

Coeur Business Group

Coeur Group provides customized project consulting services for large organizations with complex business and technology requirements. Coeur Group offers a continuum of high-value services focused on assisting clients to develop business, technology, relationship and organizational strategies. Our approaches employ proven methodologies and senior experienced consultants to work collaboratively with your organization. This ensures success while providing knowledge transfer to your staff throughout an engagement making our recommendations actionable. Coeur Group's senior industry consultants have served hundreds of large corporate and government clients who depend on our analysis and recommendations to plan, govern and manage information technology investments.

Our Partners are industry executives who have managed businesses as CEOs, CIOs and senior business staff. This aids in recognizing issues and in applying real world experience to solve problems in changing environments.

Our engagement teams are selected to provide the highest levels of project consulting services to information technology executives and managers who must leverage technology to meet business requirements. Recommendations to clients are based on projection and analysis of important events and announcements, key issues, technologies, products and services, business practices, and industry trends.

Coeur Group, headquartered in St. Louis, is a privately held firm with offices and global alliance partners in Missouri, Illinois, Minnesota, Massachusetts, Texas, Georgia and Florida. Founded in 1992, Coeur Business Group is a U.S. Government designated "Small Business" and "Veteran-Owned Business".

Coeur Competencies

- **IT Strategic Planning** – understand the future needs of an organization's various business lines to create a roadmap of required IT investments and the associated enterprise architecture.
- **Investment Management and Governance** – promote the maximization of business value by thinking, acting and coordinating differently to improve investment performance



Appendix

- **Performance Based Sourcing and Relationship Management** – selective sourcing strategies that optimize IT service delivery (outsourcing, performance-based vendor management and procurement excellence) and improve both internal and external relationship management.
- **Organizational Innovation and Transformation** - provide critical capabilities enabling organizations to respond rapidly to changing business conditions while integrating strategically, functionally, and operationally to guarantee rapid ROI enables the organization to deliver capabilities, products, and services in streamlined cycle times by providing the environment, performance measures and motivation to innovate.
- **Lab To Market** -- Specifically for state governments and research institutions, this methodology allows the development of non-tax-based revenue streams. Our methodology provides a systematic approach for enabling collaboration, identifying key research assets with high commercial value, and developing credible business opportunities, all to increase returns for the states' stakeholders.



Appendix F: Glossary

Appendix

Acronyms

AD&M	Application Development and Maintenance
CFO	Chief Financial Officer
CIO	Chief Information Officer
COBIT	Control Objectives for IT
COO	Chief Operating Officer
CRM	Customer Relationship Management
CSF	Critical Success Factor
DOT	Department of Transportation
EA	Enterprise Architecture
EAP	Enterprise Application Portfolio
EBA	Enterprise Business Architecture
EIA	Enterprise Information Architecture
EIP	Enterprise Infrastructure and Personnel Assessment
EM Services	Entrepreneurial Management Services
EPfMO	Enterprise Portfolio Management Organization
ERP	Enterprise Resource Planning
ESP	External Service Provider
EWTA	Enterprise Wide Technology Architecture
FTE	Full-Time Equivalent
GI	Geospatial Information
GIS	Geographic Information System
GTB	Grow the Business. <i>An IT portfolio category</i>
ISO	Information Security Officer
IT	Information Technology
ITIL	IT Infrastructure Library. <i>An approach to IT service management</i>
NOC	Network Operations Center
PMI	Project Management Institute
Process QA	Process Quality Assurance
RTB	Run the Business. <i>An IT portfolio category</i>
SME	Subject-Matter Expert
TTB	Transform the Business. <i>An IT portfolio category</i>



Terms

Application Program

A complete, self-contained program that performs a specific function directly for the user.

Data Model

A model that describes data flows and data needed to support high-level business functions.

Enterprise Architecture

A description of the technical framework that a business or enterprise uses to conduct its business over computing and telephone networks.

Infrastructure

The basic computing and telecommunications structure, support services, or features of a system or network.

Legacy Application

An application in which a company or organization has already invested considerable time and money. Typically, legacy applications are or use database management systems (DBMSs) running on mainframes or minicomputers. An important feature of new software products is the ability to work with a company's legacy applications, or at least be able to import data from them.

Legacy System

A computer system or application program which continues to be used because of the cost of replacing/redesigning it and often despite its poor competitiveness and compatibility with modern equivalents. The implication is that the system is large, monolithic and difficult to modify.

Portfolio Management

A system used to select a list or portfolio of technology investments to achieve the following:

- Support the strategy of the enterprise
- Rank or prioritize projects
- Manage resources effectively and efficiently
- Maximize the profitability or value of the portfolio